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AUTHOR Belcher, Gay; Macari, Nancy
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ABSTRACT

This project evaluated a program for enhancing student motivation as evidenced by improved academic growth and increased work completion. The targeted population consisted of fifth graders in a small school in a medium-sized rural community in the Midwest. The problem of lack of achievement motivation and lack of student concern about academic growth was documented by means of spring staffing for special needs students, report cards, anecdotal records from prior teachers, teacher surveys and observations, records of homework completion, student and parent surveys, and teachers' gradebooks. Analysis of probable cause data revealed that lack of motivation stemmed from students' perceptions of non-acceptance and poor self-esteem. Incomplete assignments, partially due to poor organization and time management skills, contributed to the problem, along with the possibility that assignments were not meaningful or enjoyable to students. A review of solution strategies resulted in the selection of two major types of interventions. One was the creation of a homework monitoring program using assignment sheets and program incentives. The other was the use of classroom activities to stimulate and motivate student participation and interest that were supported by cooperative learning and multiple intelligence activities. Post-intervention data indicated increased student achievement motivation, as evidenced by improved academic achievement and a reduction in incomplete assignments. Ten appendices include survey forms and journal pages. (Contains 58 references.) (Author/TJQ)

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ENHANCING STUDENT MOTIVATION AS EVIDENCED BY IMPROVED ACADEMIC GROWTH AND INCREASED WORK COMPLETION

Gay Belcher
Nancy Macari

Gay D. Belcher
Nancy C. Macari

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SIGNATURE PAGE

This Project was approved by

Marsha Harma / Susan Weaver
Advisor

Helen A. Sunkoltz Ed. D.
Advisor

Beverly Hadley Ph.D.
Dean, School of Education

ABSTRACT

This report describes a program for enhancing student motivation as evidenced by improved academic growth and increased work completion. The targeted population consists of elementary students in a small school in a medium sized rural community experiencing rapid growth and changes in racial/ethnic makeup in the midwest. The problem of lack of achievement motivation and lack of student concern about academic growth was documented through spring staffings for special needs students (IEP's), report cards, anecdotal records from prior teachers, teacher surveys, teacher observations, records of homework completion, student and parent surveys, and teacher gradebook.

Analysis of probable cause data reveals lack of motivation may be due to students' not feeling accepted by the teachers and peers, and poor student self-esteem. Incomplete assignments, partially due to poor organization and time management skills, contribute to the problem. Review of literature suggests that assignments may not be meaningful and enjoyable to students.

A review of solution strategies suggested by researchers, combined with analysis of the problem setting, resulted in the selection of two major types of interventions: creation of a homework monitoring program using assignments sheets and program incentives, and use of classroom activities to stimulate and motivate student participation and interest which were supported by cooperative learning and multiple intelligence activities.

Post intervention data indicated increased student achievement motivation evidenced by improved academic achievement and a reduction in incomplete assignments.

TABLE OF CONTENTS

CHAPTER 1 - PROBLEM STATEMENT AND CONTEXT.....1

General Statement of the Problem.....1

Immediate Problem Context.....1

The Surrounding Community.....5

National Context of the Problem.....6

CHAPTER 2 - PROBLEM DOCUMENTATION.....10

Problem Evidence.....10

Probable Causes.....16

CHAPTER 3 - THE SOLUTION STRATEGY.....25

Literature Review.....25

Project Objectives and Processes.....44

Project Action Plan.....44

Methods of Assessment.....48

CHAPTER 4 - PROJECT RESULTS.....50

Historical Description of the Intervention.....50

Presentation and Analysis of Results.....79

Conclusions and Recommendations.....82

References.....86

Appendices.....86

Appendix A - Homework Survey.....91

Appendix B - Attitude Survey.....93

Appendix C - Teacher Survey.....96

Appendix D - Survey for Parents of Fifth Graders.....98

Appendix E - Weekly Assignment Sheet.....100

Appendix F - First Parent Newsletter.....102

Appendix G - Student Journal Page.....106

Appendix H - Student Journal Page.....108

Appendix I - Journal Cover Letter.....110

Appendix J - Journal for Parent/Student Comments.....112

CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

Students of the targeted fifth grade classes exhibit a lack of achievement motivation and a reluctance to work which affects academic growth. Evidence for the existence of this problem includes spring staffing information of special needs students (Individual Education Plans), report cards, anecdotal records from prior teachers from grades K-3, interviews with fourth grade teachers, teacher observation, records of homework completion, student surveys, and teacher gradebooks.

Immediate Problem Context

The school in which the targeted fifth grade classes are housed is located approximately 60 miles northwest of a large metropolitan area located in a midwestern state. The school contains two classes each of grades one through five, as well as one developmental first grade, one cross categorical special education class, and one communication development class. The site employs ten regular classroom teachers, four special education teachers, one administrator, one part time nurse, two part time social workers, and a support staff of two. It has 13 classrooms within a two-story brick building. Contained in the building are a learning resource center, a combination music/band/chorus room, and one gymnasium. Art is housed in the

multi-purpose room that also serves as a cafeteria. The grounds include a large blacktop surface and a small grassy area that contains playground equipment. There are a number of programs available to students in the school. Academic programs include language arts, math, physical education, art, music, science, social studies, spelling, reading, Title 1, learning disability resource services, speech, and programs for gifted students from grades three through five. A number of extra curricular activities are available to the students. The school offers Forensics (a public speaking program), chorus, band (being offered only to fifth grade students), and Kid's Club (an after-school and before-school child care program serving elementary students throughout the district). There are field trips offered at each grade level. From one to three of these special trips occur at each level to correspond to various units of study. Yearly special incentive programs such as the 600-Minute Club (a reading incentive program) sponsored by Six Flags Great America, a peer mediation program, and the D.A.R.E. (Drug Abuse Resistance Education) program for fifth grade students are in place.

The promotion-retention policy states that "students who have failed to meet the performance expectations in the academic program as established by the school may be recommended for retention." A recommendation for retention may occur after the following have been considered:

1. Academic work completed during the year
2. Relation between the ability of the student and the effort of the student
3. Performance on standardized tests

4. Performance on expectancy tests
5. Physical development of the student
6. Social and emotional development of the student
7. Attendance of the student

According to enrollment reports from September 30, 1997, the racial/ethnic groups enrolled in the target school were as follows: 86.2% White, 1.7% Black, 11.4% Hispanic. 0.3% Asian/Pacific Islander, and 0.3% Native American. The total enrollment of this school was 290 students. The average class size for first grade in the school was 17.3, with the third grade average being 15.8 students. The percentage of students considered low-income in the school was 19.3%. Low-income students were from families receiving public aid, living in institutions for neglected or delinquent children, being supported in foster homes with public funds, or eligible to receive free or reduced-price lunches. Twenty-four and seven tenths percent of students were enrolled in special education classes, with active Individual Education Plans (I.E.P.'s). Sixteen students were being serviced under Title I Reading. Five and nine tenths percent of the students were enrolled in the school's gifted program. The attendance pattern of the school averaged 95.2% of the students in attendance every day. The student mobility rate showed 13.5% moved to another school within the district or out of the district within the school year. This school had one identified chronically truant child, but the school's reported percentage for truancy remained at 0.0%.

The school district of which the school is a part is a unit district consisting of one early learning center, five elementary

schools, two middle schools, and one high school. A unit district is defined as a district composed of kindergarten through twelfth grades. At the time of this study, the target school was the smallest school in the district. The district had racial/ethnic groups that made up the following divisions: 84.0% White, 0.7% Black, 14.1% Hispanic, 1.2% Asian/Pacific Islander, and 0.1% Native American. The total district enrollment was 5,157 students. The percentage of students considered low-income in this district was 16.1%. The district's percentage of limited-English-Proficient students was 7.1%. The attendance pattern for this district showed that 95.1% of the students were in attendance every day. The student mobility rate for the district showed 14.3% of the students changed schools either within the district or moved out of the district within the school year. The district had 15 students that were chronically truant with the district's truancy rate being 0.3%. According to the state school report card, average class size for the district was 21.4 for the first grades and 21.0 for the third grades. The overall average class size was 25.3 students. The district's teacher racial/ethnic groups were as follows: 98.9% White, 0.0% Black, 0.7% Hispanic, 0.4% Asian/Pacific Islander, and 0.0% Native American. The gender makeup of this district showed that 27.4% of the teachers were male and 72.6% were female. The teachers' average salary was $41,145 and the average administrator's salary was $74,390. The total number of teachers was 282. The average number of teaching experience years was 14.5 years. Teachers with a Bachelor's Degree made up 54.2% of the district. Teachers with a Master's degree and above made up 45.8% of the district. The

pupil-teacher ratio was 23 students to one teacher. The pupil-administrator ratio was 337 students to one administrator.

The average operating expenditure per pupil in the district was $5,419. The total expenditures were broken into the following categories: 57.3 percent for education, 7.1 percent for operations and maintenance, 5.2 percent for transportation, and 31.5 percent spread among other related school business expenditures. Services for district students included learning/behavior-disabled programs, counseling/social work, speech, physical therapy, psychological testing and evaluations.

The community concerns about the schools centered mainly on school funding. Prior to 1997, the district made numerous unsuccessful attempts to pass referenda to increase revenues for the building and educational funds. In 1997, a referendum passed which allowed for the construction of a new elementary school, improvements in several existing buildings, and an addition to the existing high school. No increase for the education fund was passed. With the opening of the new elementary school and the evergrowing population in the district, redistricting for the elementary and middle school attendance was required. The target school's overall racial/ethnic makeup changed due to this redistricting. In the 1998-99 school year, the targeted school's racial/ethnic background was 84.7% White, 2.3% Black, 13.0% Hispanic, 0% Asian/Pacific Islander, and 0% Native American.

THE SURROUNDING COMMUNITY

The target school is located in a large metropolitan area in the midwest. Portions of three neighboring suburbs feed into the school district. The community, which covers 10.7 square miles,

has a population of 18,207. The county's racial/ethnic population breaks down into the following categories: White, 175,273; Hispanic, 6,066; Asian/Pacific Islander, 1,293; African-American, 310; American Indian/Eskimo/Aleutian, 299. The county's religious centers include 13 Catholic churches, 14 Lutheran churches, three Episcopal churches, seven Methodist churches, three Presbyterian churches, one Jewish synagogue, and 48 other denominational churches.

Most of the county's communities are made up of single family homes with some condominiums, townhomes, and rental units. The average price of a home in the immediate community of the target school is $179,083. The median household income of the county is $51,207. The county has many small businesses and a number of large industrial sites. There is one community junior college located in the county.

NATIONAL CONTEXT OF THE PROBLEM

Nationally, teachers have observed that many students do not seem motivated to learn, they seem disengaged, and they show little desire to work to meet teacher expectations. Carl Rinne (1998) in "Motivating Students is a Percentage Game" stated that William Glasser estimates that about half of the students in regular classrooms make no consistent effort to learn. Rinne also maintained that student motivation is a chronic problem in schools today (p. 620).

Edward Hootstein (1994) reported that middle school teachers also are frustrated as they ask questions about how to get their students to try harder and how to hold their students' attention. They express concern about the poor effort that students devote to

academic tasks (p. 213). Hootstein went on to cite T. M. Tomlinson's 1991 work entitled "Hard Work and Higher Expectation: Motivating Students to Learn" as identifying lack of student motivation as one of the primary causes of low achievement levels (p. 213).

Research offers limitless theories about the causes of lack of student motivation. One source of problems in this area is directly related to the problems in American society today. Young people are unfortunately focusing their time and attention on family problems such as poverty, divorce, one-parent families, and situations experienced outside of the classroom. These problems most certainly detract from a student's ability to be engaged in class and to feel motivated to strive to learn (Morganett, 1995, p. 27). The solution to most of these problems in a student's life are beyond the control of the teacher or the school. Instead then, the focus of the school must be in providing a climate conducive to learning--one in which the child feels a sense of acceptance, comfort, and order (Marzano, 1992, p. 23).

Experience will tell us that learning is inhibited if students do not feel accepted by the teacher and by their peers. Each individual can probably remember a time when learning was impeded by worries about being accepted or fitting in with peers or teachers. Research confirms the importance of students' perception of their acceptance (Marzano, 1992, p. 13). High-quality relationships with the teacher are critical in the success of motivating students to learn and to exhibit appropriate classroom behaviors. The teacher's role is also important as

she/he provides opportunities for classroom activities that foster cooperation and collaboration among students.

David Johnson and Roger Johnson indicated in 1978 in the *Journal of Research and Development in Education*, that cooperativeness is positively related to self-esteem; and self-esteem in a classroom connects the students to the group (Gallicchio, 1992, p. 76). Through the use of cooperative learning techniques, the teacher can foster acceptance and understanding among the students in the classroom. These types of activities can also address the issues of varying abilities of students and can provide opportunities to challenge all students.

As the nation has made an effort to keep as many students in school as possible, this worthwhile effort, while beneficial in some aspects, can lead to having more students in the classroom who lack a sense of direction or purpose and a lower level of motivation to learn. The teacher then must deal with a homogeneous population of students including these less motivated students. The challenge for the teacher is to motivate the average students, challenge and maintain the desire to learn in the gifted students, and "hook" and foster a desire to learn in the lower ability and unmotivated students (Morganett, 1995, p. 27).

This same national push to keep students in school might also have resulted in the lowering of academic standards in order to ensure perceived success by more students. However, this "dummying down" of the curriculum has a potential negative effect. Recent research continues to find that challenge is absent in many

of America's classrooms (Gentry, Maxfield, and Gable, 1998, p. 260). Most students are validated by being offered what they perceive as sophisticated curriculum (Gallicchio, 1992, p. 75). "Students' motivation is enhanced if they perceive that learning tasks (a) directly or indirectly relate to personal needs, interests, and goals and (b) are of appropriate difficulty levels so that they can accomplish them successfully" (McCombs and Pope, 1998, p. 29). Students can be helped to understand their natural capacities for higher level thinking, and motivation to learn can be elicited. A positive spiral of higher level understanding and functioning can then result (McCombs, et. al, p. 16). Therefore, challenge should be an integral part of the classroom to ensure engagement of all of the students.

Both of these contributing factors must be addressed in the classroom and the curriculum. White, Blythe, and Gardner (1992) maintained that students have talents that our traditional classrooms rarely tap. They added, "Educational standards do not have to be lowered for them, but should be expanded to offer a wider variety of opportunities for success. Teachers should expand their efforts to include a wider variety of opportunities for success" (p. 127). The challenge to the teachers is to provide on a daily basis a curriculum that is relevant, meaningful, interesting, and challenging to all students.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

In an attempt to document the lack of achievement motivation and a reluctance to work which affects academic growth in the targeted students, five types of evaluative tools were used. The evaluative tools consisted of two student surveys on homework completion; one student survey on academic interests, perceived strengths and weaknesses, and concerns; one parent survey on homework habits; and one teacher survey regarding work completion. In addition, student permanent records were reviewed and notes made regarding any comments indicating problems in grades three or four relating to work completion, organizational skills, study skills, or motivation. The targeted school's records regarding a building-wide work completion program for the previous and present school year were analyzed. Also, teacher gradebooks for the first quarter were used to track work completion and student achievement.

The initial student survey was administered during the first week of school in August, 1998.(Appendix A) Students were asked to assess their performance on homework in the previous grade and to indicate if they completed assignments on time. They were asked to estimate the amount of time they spent each evening on homework, the time of day in which they worked on homework, where

in the home they did their homework, and if an adult checked to see if homework was completed. Ninety-six percent of the students believed that they completed assignments on time. Figure 1 indicates that 97% of the students stated that they spent thirty minutes or less on homework in fourth grade.

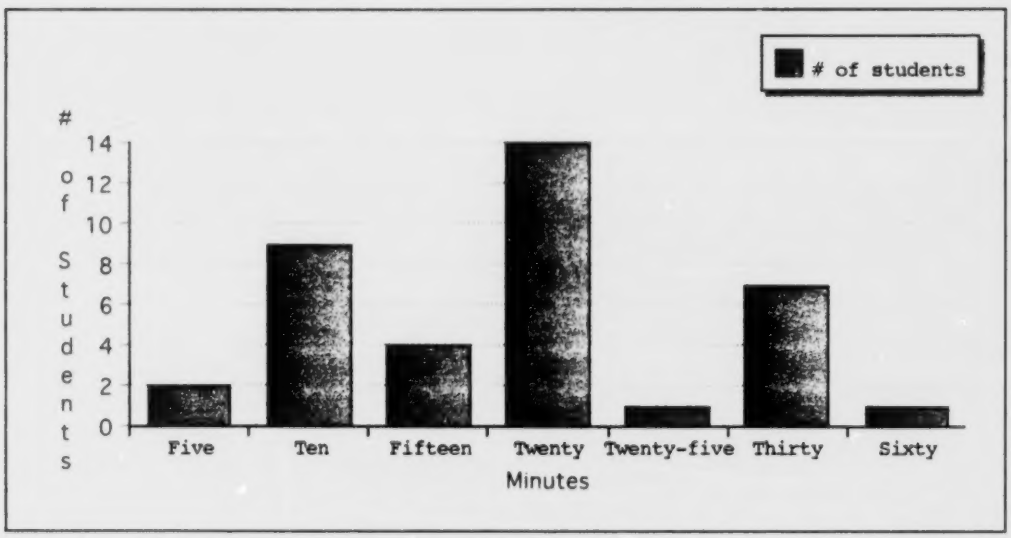

Figure 1. Number of minutes spent nightly on homework in fourth grade as indicated by targeted students.

Researchers determined from this survey that the students' perception was that there was no significant problem with work completion in the past. However, on the same date, students were administered the "Getting to Know Fifth Graders" questionnaire. (Appendix B) In response to the cloze sentence, "My greatest concern about fifth grade is...," 46% of the students indicated concern about homework. On the question, "How important is it to you to do well on your schoolwork?" 97% indicated that school work

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was very important. The same percent of students indicated doing well on school work also was important to their parents.

In response to a perceived problem in previous years at the targeted site, the teaching staff and administration instituted an incentive program called All-School Work Completion Day in which students were recognized for completing all assignments during the specified quarter. Researchers reviewed records of the 1997-98 school year for the targeted students during their fourth grade year and found that 21% of the students did not complete all assignments during the first quarter, 28% did not complete all assignments during the second quarter, and 33% did not complete all assignments during the third quarter. (Data was not available for the final quarter of the year.) Researchers analyzed the data and determined that work completion was, in fact, a problem for the targeted students during the previous school year. Data was collected during the first quarter of the 1998-99 school year for the All-School Work Completion Day. Researchers found that 89% of the targeted students exhibited some degree of difficulty with work completion while only 11% of the targeted fifth grade students had completed all assignments on time. A notable difference existed between students' perception of work completion and actual data results regarding work completion.

To further document the problem of work completion at the targeted site, a teacher survey was administered.(Appendix C) At a staff meeting during the first semester, surveys were completed by fourteen staff members at the targeted site. In response to the question of what percentage of students complete homework on time on a daily basis, 57% of the staff members reported that

between 70% and 80% of their students complete their homework on time on a daily basis. Forty-three percent of the staff reported that 90% to 100% of their students complete their homework on time on a daily basis.

Eighty-six percent of the teaching staff reward students for homework completed on time, while 14% do not reward their students for homework completed on time. The staff also reported that many of them enforce a consequence for failure to complete assignments on time. Ninety-three percent reported that they lower the grade on late or incomplete assignments. Another consequence chosen by 71% of the staff for failure to complete homework is that the student stayed in from recess or after school to complete the homework assignments. The staff was polled as to the main reasons they felt students do not complete homework on time. Thirty-six percent blamed poor organizational skills and 36% attributed incomplete work to the fact that the student simply chose not to do it. The most often cited cause, however, was cited by 64% of the teachers who felt that the problem resulted from lack of parental support. Only 21% felt that other activities or lack of enough time interfered with work completion.

Upon reviewing permanent records for the targeted students, researchers recorded and analyzed teacher comments on report cards from grades three and four. Forty-four percent of the report cards of targeted students indicated a problem with work completion in previous grades. The following were among the various teacher comments noted:

"An important goal for [student cc] in fifth grade should be to hand in, on time, every homework assignment. Her B in math is because of so many missing homework assignments."

"[Student dd] does well on spelling tests, but has trouble getting her homework completed and turned in on time."

"Sometimes [student ee] will dawdle and try to get out of completing classwork."

[Student h]..."needs to assume responsibility for returning homework."

[Student d]..."misses recess to get caught up on homework."

[Student kk]..."had many homework assignments not handed in on time."

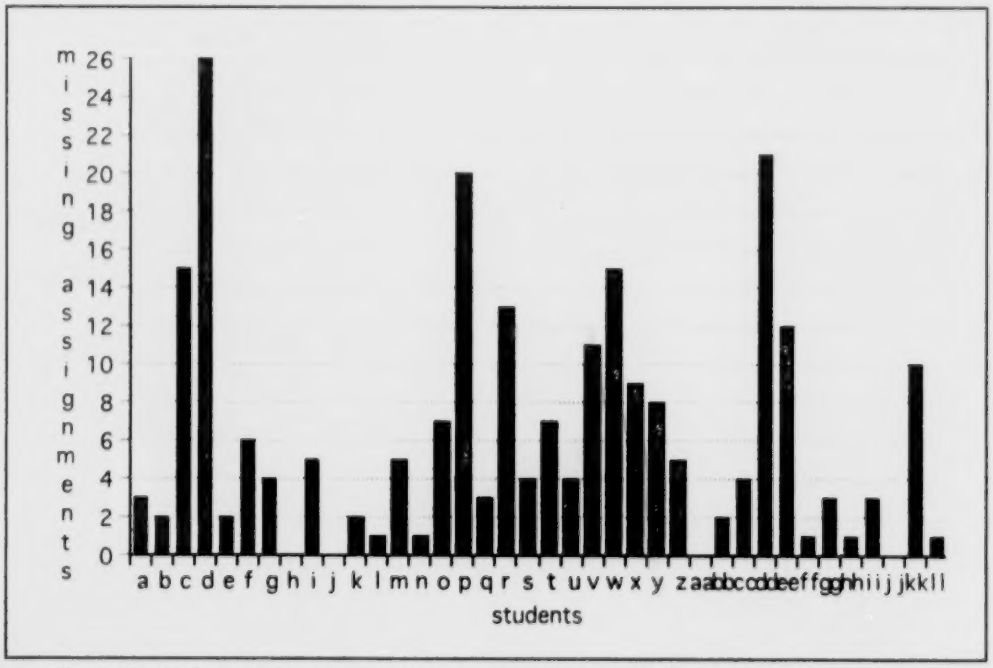

Figure 2. Total missing or late assignments for first quarter per student.

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During the first quarter of the 1998-99 school year, grades for 176 total assignments for the targeted students were recorded in the teachers' gradebooks. Information was compiled and graphed regarding the number of missing assignments for each student as shown in Figure 2. Records were also kept as to what each specific assignment was. After reviewing the data in Figure 2, the researchers found that only four students completed all assignments on time during the first quarter of the school year. Twenty-three students had from one to ten missing assignments. Nine students were missing more than ten assignments with two of them missing more than 20 assignments each. Researchers determined that work completion was a problem in the targeted fifth grade classes.

In November, following the first quarter, the student homework survey was readministered. Students were again surveyed regarding their homework habits and work completion for the first quarter of the current school year. Even though by this time students should have been aware on a daily basis that work was or was not completed on time, only three students realistically saw work completion as a problem. Ninety-two percent of the students still indicated that work completion was not a problem for them.

At this time a parent survey also was administered.(Appendix D) On both the parent and student surveys, researchers questioned whether there were consequences at home if the student's homework was not completed on time as shown in Figure 3. Of the thirty-four students who responded, 21% indicated there were consequences at home, 59% indicated there were definitely no consequences, and 21% indicated that sometimes there were consequences. Of the

parents who responded to the question regarding whether there were consequences at home for their child for missing assignments, 50% answered "yes" and 50% answered "no." Comparison of this data indicates a discrepancy between the perception of the parents regarding the application of consequences and the perception of the children. If there are consequences in the home for missing assignments, they are possibly applied inconsistently or are not having the desired impact on the student.

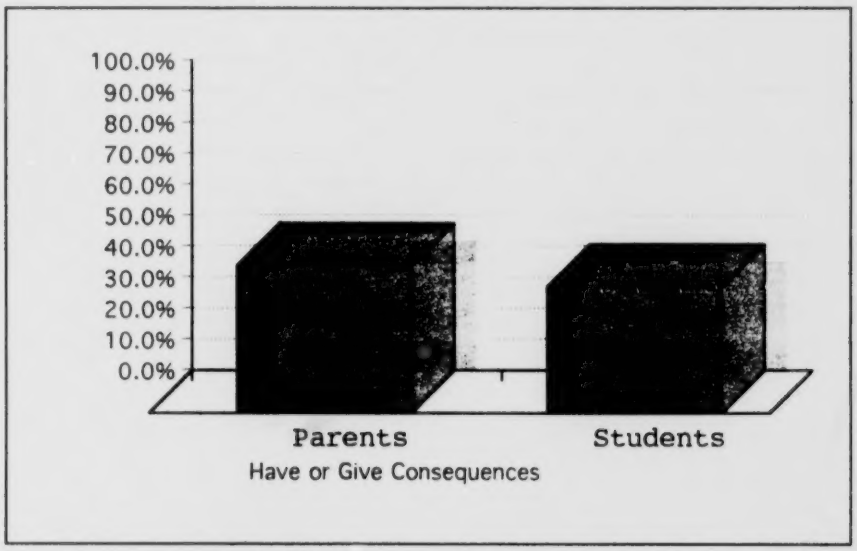

Figure 3. Parent and student perceptions regarding existence of consequences for incomplete homework.

Probable Cause

Extensive research has been conducted by experts that suggests several causes for the lack of achievement motivation in the academic setting. Among those contributing factors are poor self-esteem, a negative learning environment, lack of parental

involvement, ineffective teaching strategies, and lack of meaningful context.

Much is written about the need to help the student develop a positive self-esteem before learning can take place. Although the school experience cannot help but influence the learning of a child's self-concept, traditionally schools have not been involved in actively nurturing the development of a positive self-concept in students (Gram & Guest, 1977, p. 3). Self-concept is a better predictor of success in school than is IQ. Children with low or poor self-concepts do not learn or perform in school as well as students with high (good) self-concepts (Canfield & Wells, 1976, p. 4). Deficiency needs must be, at least, partially satisfied before a person can be motivated to pursue satisfaction of higher level needs. "These higher level needs that, when satisfied, enable the human being to grow psychologically are called **growth needs**" (McCown & Roop, 1992, p. 304). Maslow's theory was explained to mean that these growth needs are self-actualization, need to understand, and aesthetic needs. If any of the basic needs--esteem needs, belongingness and love needs, safety needs, and physiological needs--are unfulfilled,... "it will be very difficult for that student to focus on higher order needs, such as the need to understand" (McCown, et. al, 1992, p. 304).

Related to the matter of motivation, Wlodkowski and Jaynes (1990) stated the following:

> The finite nature of human motivation in a complex and demanding world has profound consequences. It means that every day we must make choices and decisions about how we will dispense our time, energy, and

> attention....In this arena, motivation to learn must find a place along with motivation to play, motivation to be a good friend, and all the other motivations that exist and are born in the developing lives of children. (p. 9)

Maslow's theory of motivation distinguishes between good choices and bad choices made by students. McCown and Roop (1992) explained this distinction in the following:

> **Good choices** are choices that yield a challenge for the learner; **bad choices** are choices that do not. A student who makes bad choices is a student who has not satisfied all of his or her deficiency needs....If students perceive your classroom as threatening, they are likely to play it safe. They will not take risks academically; they will not seek out the challenge. (p. 307)

Canfield and Wells (1976) developed a theory to explain the relationship of motivation and a willingness to take risks. They stated the following:

> ... that in any potential learning situation, the student is asked to take a risk....In every situation he is risking error, judgment, disapproval, censure, rejection, and, in extreme cases, even punishment. At a deeper level the student is risking his or her self-concept. The student who has had a good deal of success in the past will likely risk success again, but a student with a history predominated by failures will be reluctant to risk failure again. (pg. 7)

A negative environment breeds a low sense of self. It does not have warmth, defined limits, or respectful treatment (Krupp, 1988, p. 165).

Another contributing factor to low student motivation is the fact that much of what students learn in school is meaningless, unchallenging, and uninteresting. It is worthless in the real world. In order for learning to be authentic and intrinsic, it must be meaningful (Gentry, et al., 1998, p. 260). Johnson, Johnson, and Holubec (1988) further explained the need to relate learning to every day living in the following:

> Schools teach that work means performing tasks largely by oneself, helping and assisting others is cheating, technical competencies are the other thing that matters, attendance and punctuality are secondary to test scores, motivation is up to the teacher, success depends on performance on individual tests, and promotions are received no matter how little one works. In the real world of work, things are altogether different. Most employers do not expect people to sit in rows and compete with colleagues without interacting with them. The heart of most jobs, especially the higher-paying more interesting jobs, is teamwork, which involves getting others to cooperate, leading others, coping with complex power and influence issues, and helping solve people's problems in working with each other. Teamwork, communication, effective coordination, and divisions of labor characterize most real-life settings. It is time for schools to leave the ivory tower of working alone

and sitting in rows to see who is best and more realistically reflect the realities of the adult life. (p.17)

"One of the complaints heard from teachers and principals is that they no longer have the parental support they once enjoyed" (Rose, Gallup, & Elam, 1997, p. 51). This is a critical problem because according to research, parents appear to be the primary influence on a child's motivation to learn. Wlodkowski and Jaynes (1990) stated that research indicates that enthusiastic parent involvement and support are crucial in the success and motivation of children (p. 15). Findings suggested that students' homework represented a complex and multidimensional set of tasks for parents, for which they often felt ill-prepared, by both limitations in knowledge and competing demands for their time and energy (Hoover-Dempsey, Bassler, & Burrow, 1995, p. 435). The more parents can understand and support what teachers do, the more they can help their children. The greater the positive relationship between teachers and parents in what they say and do about children learning, the more powerful their mutual influence can be upon children. "Parents and teachers working together can more effectively nurture a desire for learning in more students" (Wlodkowski and Jaynes, 1990, p. 22). Berliner and Casanova (1996) referred to research reported by Reginald Clark in Family Interaction, Community Opportunity Structure and Children's Cognitive Development (1982) and stated that parents *do* care and *do* want to help, but sometimes don't know how to be of assistance (p. 183).

Edward Hootstein (1994) stated, "Teachers need to learn new strategies to enhance student motivation, and they need to integrate these strategies into the instructional process" (p. 213). Walters and Gardner (1984) found the following:

> First of all, it is clear that many talents, if not Intelligences [sic], are overlooked nowadays; individuals with these talents are the chief casualties of the single-minded, single-funneled approach to the mind....An exclusive focus on linguistic and logical skills in formal schooling can short-change individuals with skills in other Intelligences. (p.72, 75)

Thomas Armstrong (1984) added to the subject of a need to improve and vary teaching methods when he stated the following:

> MI [multiple intelligence] theory makes its greatest contribution to education by suggesting that teachers need to expand their repertoire of techniques, tools, and strategies beyond the typical linguistic and logical ones predominantly used in American classrooms. According to John Goodlad's pioneering "A Study of Schooling" project, which involved researchers in observing over 1,000 classrooms nationwide, nearly 70 percent of classroom time was consumed by "teacher" talk--mainly teacher's talking "at" students (giving instructions, lecturing). The next most widely observed activity was students doing written assignments, and according to Goodlad (1984, p.230), "much of this work was in the form of responding to directives in workbooks or on worksheets." (p. 48)

Cooperative learning is most important in motivating students to learn, yet is used the least often in the classroom. It should be used when we want students to learn more, like school better, like each other better, like themselves better, and learn more effective social skills (Johnson, et al., 1990, p. 5). Cooperative learning helps average and lower students understand higher level material (Gallicchio, 1992).

Education is often turned into a competitive situation in which the main goal is grades. Most students perceive school as predominantly a competitive enterprise. They work hard to do better than the other students, or they choose not to strive at all because they do not believe they will be able to win. Morton Deutsch's study (as cited in Johnson, et al., 1990) stated the following:

> ...in competitive situations, students perceive that they can obtain their goals if and only if the other students in the class fail to obtain their goals....When students are required to work individualistically they work by themselves to accomplish goals that are unrelated to those of the other students. Students work with their own materials and focus on their own interests, efforts, and successes or failures ignoring all others. They see no relationship between their goals and those of other students. (pp. 3-4)

Well thought out cooperative learning experiences provide opportunities for students to see themselves as part of a team working for a common goal and depending on each other for ultimate success.

Another important factor missing in many of today's classrooms is the element of student choice. Giving students choices is as much a fundamental principle of good teaching as it is a specific intrapersonal teaching strategy (Armstrong, 1994, p. 83). "Choice...offers student ownership and control of their learning and may enhance relevance and achievement" (Gentry, et al., 1998, p. 261). Choice is a powerful motivator and enhances learning. Citing experts in the field, Gentry et al. 1998) determined that students should be given choices in all aspects of the learning process, specifically group assignments, whether they work alone or with others, educational activities, product development, and what is learned (p. 261). Marzano (1992), in reporting on research done by Hom, Murphy (1985) and Schunk (1985) stated that when students are working on goals they themselves have set--they are more motivated and they achieve more than when the goals are set by the teacher. Marzano (1992) added the following:

> This research strongly implies that if educators expect students to be motivated to succeed at classroom tasks, they must somehow link those tasks to student goals. Some powerful ways of doing this include allowing students to structure tasks around their interests, allowing students to control specific aspects of tasks, and tapping students' natural curiosity. (p. 25)

Furthermore, students must also be involved in choices for structuring the classroom. "Students who participate in establishing rules find them fairer, and obey them more often" (Berliner & Casanova, 1996, p. 37).

A summary of the probable causes at the site and from the professional literature for the lack of achievement motivation and a reluctance to work includes a poor self-esteem held by the student, an environment for learning in which students do not feel safe and valued, and a lack of involvement and interest by the parents. Ineffective teaching strategies and a lack of meaningful content for the students also contribute to these identified problems.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

Analysis of the probable cause data suggests that students' lack of achievement motivation can be attributed to a variety of factors. These factors can be addressed in numerous ways.

According to Wlodkowski and Jaynes (1990), "Virtually all children are born with motivation to learn....And then comes school. Too often, the child's motivation to learn seems to dwindle with age" (p.7). Hootstein (1994) found that teachers are frustrated about motivating students. He said, "They express concern about the quality and quantity of effort that students devote to academic tasks" (p. 213). Gallicchio stated, "In the past we have done a great deal to motivate our gifted and talented students. Now students of middle ability are becoming involved, too, and teachers...are becoming more involved with them, bringing the middle more clearly into focus" (p. 76).

Classroom Climate

Johnson and Johnson (1990), citing their own original statement, reiterated the following in regards to classroom climate and its significance in the motivation of students:

> In order to be productive, a class of students has to cohere and have a positive emotional climate. As relationships become more positive, absenteeism decreases, and increases may be expected in student

> commitment to learning, feelings of personal responsibility to the assigned work, willingness to take on difficult tasks, motivation and persistence in working on learning tasks, satisfaction and morale, willingness to endure pain and frustration to succeed, willingness to defend the school against external criticism or attack, willingness to listen to and be influenced by peers, commitment to peer's success and growth, and productivity and achievement (Johnson & F. Johnson, 1987; Watson & Johnson, 1972). In addition, when students are heterogeneous with regard to ethnic, social class, language, and ability differences, cooperative learning experiences are a necessity for building positive peer relationships. (pp. 36-37)

Other researchers give numerous strategies for building a positive classroom environment. Wlodkowski and Jaynes (1990) stated, "When it comes to motivating students to learn, teachers do make a difference....One of the traits of motivating teachers is enthusiasm. They care about what they teach and communicate to their students that what they are learning is important" (p. 19). However, these experts went on to mention that enthusiasm alone is not enough for a teacher to motivate students. They suggested the following characteristics of effective, motivating teachers:

> They are good managers. They can handle a class and keep it moving. Students feel safe with them and can concentrate on the work at hand.

They expect students to be successful learners. All students get a chance to learn and are held accountable. Students know their teachers will not give up on them.

They present material to students that is within their capacity to learn. Students know that with effort they can learn and complete assignments.

They offer corrective feedback to students. On important assignments and learning tasks, motivating teachers show students what their mistakes are and how they can find a way to help themselves. Students know these teachers will help them to improve.

They give fair tests. The students know when all important exams are expected and the criteria for grading them. Students also know how to prepare for their tests and have a reasonable chance to demonstrate the knowledge or skill requested.

They give grades that are informative. Students can understand the criteria used to establish grades and know why they received the mark that they were given.

They challenge and stimulate. Students sense they are pursuing learning that is at least moderately difficult and realize that they are using their minds in new and different ways.

They help students to realize their growing competence and mastery. They make comments, both verbal and written, that let students know that their learning is the result of efforts for which the students are

personally responsible, such as determination, perseverance, creativity, and the like. Students know they are becoming more effective at what they value.

They are empathic. Effective teachers consider the students' viewpoints. Students believe these teachers are sensitive to their needs and perspectives.

They value knowledge over grades. They set a tone that learning is what counts... (Wlodkowski & Jaynes, 1990, pp. 19-20)

DePorter, Reardon, and Singer-Nourie (1999) found that the classroom atmosphere includes the languaging the teacher chooses, rapport with students, and teacher attitudes about school and learning. "A joyful atmosphere puts the joy in learning....The environment is the way you construct your classroom: lighting, color, arrangement of desks and chairs, plants and music--everything that supports learning" (Deporter, et al., 1999, p.14).

Through the use of humor, teachers can improve motivation and enhance the classroom environment. Marzano (1992) explained, "Teachers who have for years used humor as a part of their instructional repertoire can take pleasure in knowing that they have been capitalizing on a basic principle of human behavior to enhance student learning" (p.23). According to DePorter et al. (1999), "When you consciously create opportunities to bring joy into your job, it adds more fun to both teaching and learning. Joy gets students ready to learn more easily, and can even change negative attitudes" (p. 26). Fulher (1991) further supported using fun and joy

in the classroom and suggested ways to do so in the following:

> The levity of laughter can be a motivator, as it lifts one's spirits and moves learners forward with a lighter step. Chuckle together through poetry, using a Light in the Attic (Silverstein, 1981), New Kid on the Block (Prelutzsky, 1984), or one of Dahl's Revolting Rhymes (1982). Share the wily wolf's version of what really happened to the three little pigs in The True Story of the Three Little Pigs (Schieszka, 1989). Everyone will be better for the interlude.[sic] (paragraph 16)

Teaching Strategies

According to Hootstein (1994), "Teachers need to learn new strategies to enhance student motivation, and they need to integrate these strategies into the instructional process" (p. 213). These improved teaching strategies will serve to improve student motivation.

Positive Self-esteem

One of the major factors involved in student motivation is self-concept or self-esteem. Use of teaching strategies to help strengthen student self-concept is necessary because of the difficulty in motivating students with low self-esteem. Teachers, therefore, must be able to identify these students. To aide in the identification of students with low or poor self-esteem, Johnson et al. (1990) described them as individuals who tend to:

1. Have low productivity due to setting low goals for themselves, lacking confidence in their ability, and

assuming that they will fail no matter how hard they try.

2. Be critical of others as well as themselves by looking for flaws in others and trying to "tear them down."

3. Withdraw socially due to feeling awkward, self-conscious and vulnerable to rejection.

4. Be conforming, agreeable, highly persuasible, and highly influenced by criticism.

5. Develop more psychological problems such as anxiety, nervousness, insomnia, depression, and psychosomatic symptoms. (p. 38)

After identifying students who exhibit the problem of low self-esteem, the teacher must aggressively attack the problem while working to maintain positive self-concepts in the other students in the class as well. Canfield and Wells (1976) stated that cognitive learning increases when self-concept increases (p. 7). They gave 100 ways to increase self-esteem which can be used in the classroom. Activities were suggested which are designed to help students see their own strengths, self-reflect, and accept themselves. DePorter et al. (1999) found, "Everyone likes to be acknowledged. Receiving acknowledgement fills us with pride, self-confidence and happiness. Research supports the concept of student efficacy increasing due to teacher acknowledgement" (pp. 28-29).

Gram and Guest (1977) stated the following in regards to the importance of the school's role in helping build a child's self-esteem:

> Since a child spends over half his waking day in the school setting, the school is involved to a very large extent in the learning of a sense of self-worth....In response, educators have been designing and using curricula to develop positive self-concept. (p. 3 & 5)

Self-esteem is directly connected to many teaching strategies and interventions which will, in turn, effect motivation. Borba and Borba (1978) stated the following in regards to the effects of a positive classroom environment on a student's self-esteem and motivation:

> Creating an environment in which children learn to like themselves is...a major, contemporary educational challenge....Both behavioral and academic growth are the direct results of environments in which children have the opportunity to internalize positive self-images. In fact,...a positive, self-enhancing atmosphere is essential to a child's education success. (Preface)

The teacher must make connections with the students on a personal level by first building authentic bridges in their students' lives. DePorter et al. (1999) explained the importance of making personal connections in the following:

> Teaching is an earned right, and is granted by the student. So, first enter their world....By [sic] associating what you teach with an event, thought, or feelings extracted from their home, social, athletic, musical, artistic, recreational or academic lives. Once this link has been established, then you can bring them

into your world, and give them your understanding of the content. (p. 6-7)

Morganett (1995) found there are essential practices that would lead to improved student-teacher relationships. Among the first suggested were to get to know the student by name as quickly as possible and to get to know some personal things about each student. Also the teacher should demonstrate a caring and interested attitude toward them. This can be accomplished by taking time to talk individually with students. The teacher can then ask about how they are doing in class or can make the conversation a more personal one (p. 27).

Another way to develop the student-teacher connection is by the use of "kid logs." The teacher can use a "kid log" to keep notes about student interests, or a unique fact about each student. This can be any convenient form. Using these facts later can act as a 'hook' for attaching the child to the class (Gallicchio, 1992, p. 75).

"[Teachers] can influence the motivation of students by coming to know their perspective, by drawing forth who they naturally and culturally are, and by seeing them as unique and active," according to Wlodkowski and Ginsberg (1995, p. 18). They further advised that teachers should then relate teaching and learning activities to students' experience or previous knowledge because "...teaching that is responsive prompts student involvement (Olneck, 1995)" (Wlodkowski and Ginsberg, 1995, p. 17). Several experts mentioned that making this personal connection with students can be accomplished by the use of student reflective journals. Topics can be selected which allow students

to reflect on themselves and on past experiences, successes, etc. and which allow the teachers to make connections with the students. Journals provide a non-threatening place to explore learnings, feelings, happenings, and language through writing. They also provide opportunities to discover experiences and feelings teachers and students have in common. Teachers who use journal writing have found that when they are sensitive and respectful of students' attitudes, life stories, and learning processes, the children come to value and enjoy journal writing (Routman, 1991, p. 197). Journals should become a safe place for writers to take risks without the anxiety of correctness. Children can write opinions and feelings. Teachers, then should take time to read and respond to entries. Children will write more when the teacher takes the time to add supportive comments and responses (Santa, p.115-116, 122, and 133). The teacher-child bond will strengthen as the child writes and reveals more about himself or herself if the teacher makes connections to those revelations.

Cooperative Learning

Along with the other activities used to improve self-esteem in the classroom, the use of cooperative learning activities has proven to further build the child's self-concept and identity as a member of a team. Kagan (1994), on the subject of the benefits of cooperative learning, stated the following:

> Dozens of studies have demonstrated that when students are allowed to work together, they experience an increase in a variety of social skills; students become more able to solve problems which demand cooperation for

> a solution, better able to take the role of the other, and are generally more cooperative on a variety of measures, such as willingness to help and reward others. (p. 3:2)

Johnson and Johnson (1978) found that cooperativeness positively relates to self-esteem and that self-esteem in a classroom connects the student to the group. Gram and Guest (1977) added the following:

> Cooperative group activities can be beneficial in the classroom because they allow students to learn self-concept in the school setting while participating in activities with a group of peers. [A child] can get support from, and learn to give support to, classmates. Discussion about group process can give him a clearer understanding of how he affects and is affected by people in his life. (p. 5)

Johnson and Johnson (1978) continued to discuss the use of cooperative learning to help improve student self-esteem in the following:

> Cooperation produces higher levels of self-esteem than does competition and individualistic efforts....Within cooperative situations, individuals tend to interact, promote each other's success, form multidimensional realistic impressions of each other's competencies, and give accurate feedback. Such interaction tends to promote a basic self acceptance of oneself as a competent person. (p.38)

Kagan (1994) further justified the use of cooperative grouping in the classroom in the following:

> The ability to adjust one's behavior to work effectively with others and to communicate with others can be learned only in the process of working and interacting with others. Thus, cooperative learning becomes a necessary component of curriculum reform if we are to prepare our students for a job world of the future. (p. 3:1)

Johnson et al. (1990) added the following:

> Students who collaborate on their studies develop considerable commitment and caring about each other no matter what their initial impressions of and attitudes toward each other were. They also like the teacher better and perceive the teacher as being more supportive and accepting academically and personally. (p. 36)

"Cooperative learning...can develop greater trust among students, more emotional involvement, and more commitment to learning, and can lower fear of failure," explained Wlodkowski and Jaynes (1990, p. 94).

The use of cooperative learning, which research suggested for building positive student self-esteem, also is highly effective in enhancing student learning. Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. The process is simple. The teacher provides necessary instruction and then the students work in groups of two to five members on the assignments until all of the members understand and complete it (Johnson et

al., 1990). Kagan (1994) stated, "Hundreds of lab and field research studies demonstrate that cooperative learning has a number of very positive outcomes" (p. 3:1). Among these outcomes are academic gains, especially for minority and low achieving students; and improved social and affective development among all students. "There is also evidence that cooperative learning has a positive impact on classroom climate, self-esteem among students, internal focus of control, role-taking abilities, time on task, attendance, acceptance of mainstreamed students, and like for school and learning" (p. 3:1). Johnson et al. (1990) further added the following:

> Grades in school do not predict which students will have a high quality of life after they are graduated. The ability to work cooperatively with others does. The ability of students to work collaboratively with others is the keystone to building and maintaining the caring and committed relationships that largely determine quality of life. (p. 18)

"[Cooperative learning]...provides the means for establishing positive, collaborative relationships among students and teachers," according to Bellanca and Fogarty (1991, p. xiv). However it does much more. Bellanca and Fogarty continued, "It invites students and teachers to learn how to inquire together. Given the development of students' willingness to learn together, teachers who are committed to learning for transfer can easily teach students how to think more creatively and critically." Students increase their abilities to reason, solve problems and make decisions (Bellanca & Fogarty, 1991, p. xiv).

The essential components of cooperative learning must be taught and included in each cooperative unit to avoid the barriers to effective group learning. Johnson et al. (1990) stated that those components are:

1. Positive Interdependence--The students must believe that "they sink or swim together" because all group members have two responsibilities: learn the materials and ensure that all members of the group have learned the material. One student cannot succeed unless all groupmates succeed. They share materials, resources, provide support for each other, and are jointly successful. The group goal always must be part of the lesson even though each member might have different roles or responsibilities.
2. Face-to-Face Promotive Interaction--This interaction allows each student to explain how answers to assignments were derived. This may involve explaining how to solve the problem, what concept is being learned, relating this learning to past learning, etc. Also this interaction provides opportunities for helping and assisting each other, providing important feedback to other members, and provides an opportunity for pressuring unmotivated group members to achieve. Finally, it allows students to get to know each other thus forming a basis for caring and committed relationships among group members.
3. Individual Accountability/Personal Responsibility--At the completion of the group task, each member must be

accountable and should be able to complete the tasks by themselves.

4. Interpersonal and Small Group Skills--Students must be taught the social skills needed to be successful in collaborative situations and must be motivated to use those skills so that the group is productive. Students must know each other, trust each other, communicate with each other accurately and clearly, accept each other, and be able to resolve conflicts.

5. Group Processing--The group must have the opportunity to reflect on what group actions were helpful or not helpful and which actions should be changed, dropped, or continued. The teacher can help with this processing by observing the groups, and offering feedback on how well they worked together or on what difficulties were observed. (pp. 10-15)

Among the many benefits of cooperative learning within the classroom, one mentioned often is the benefit of providing interest and challenge to students of all ability levels. Johnson et al. (1990) stated the following:

> That working together to achieve a common goal produces higher achievement and greater productivity than does working alone is so well confirmed by so much research that it stands as one of the strongest principles of social and organization psychology. Cooperative learning is indicated whenever the learning goals are highly important, mastery and retention is important, the task is complex or conceptual, problem solving is

> desired, divergent thinking or creativity is desired, quality of performance is expected, and higher level reasoning strategies and critical thinking are needed. (p. 31)

Cooperative learning groups also help average and lower students understand higher level material. Gallicchio (1992) found, "Most students are validated by being offered what they perceive as sophisticated curriculum....[But] gifted students can benefit from this model as well. They can be teacher *and* learners; many gifted students learn from the common sense practicality of their less able peers" (pp. 75-76). Gallicchio further explained that the gifted student may spew forth ideas--some too elaborate and impossible, while the average students patiently weed through the ideas to make them workable. Gifted students can also be directed to act as instructors in certain areas while bringing out unusual or sophisticated ideas. Other students weed through and help the group focus on what is workable (p. 76).

Challenge is seen as an integral part of the quality education. Instruction should be slightly above a student's achievement level (Gentry et al., 1998, p. 260). "Challenges are excellent opportunities for students to build their confidence and pride", stated Wlodkowski and Jaynes (1990, p. 97). Finally, according to Johnson et al. (1990), cooperative learning results in higher-level reasoning, increased generation of new ideas and solutions, and greater transfer of what is learned within one situation to another than does competitive or individualistic learning (pp. 30-31). Cooperative learning allows students of all

ability levels to handle and master more challenging material thus increasing student motivation.

Multiple Intelligence

In reviewing the current research available, much evidence was found to support the incorporation of multiple intelligence identification through assessment and activities that enhance all intelligences. Walters and Gardner (1984) explained the need for assessing students for their preferred intelligences in the following:

> ....a careful assessment procedure [of multiple intelligence strengths] allows informed choices about careers and avocations. It also permits a more enlightened search for remedies for difficulties. Assessment of deficiencies can predict difficulties the learner will have; moreover, it can suggest alternative routes to an educational goal (learning mathematics via spatial relations; learning music through linguistic techniques). (p. 72)

In order to enable students to handle difficult content materials and effectively solve problems, Kornhaber and Gardner (1993) stated, "Each intelligence gives a person access to forms of thought that prove especially appropriate to handling specific types of content or problems" (p.111). In referring to the need for educators to make use of the multiple intelligence theory, these researchers quoted Feldman (1986) who stated, "As is the case with human development generally, excellence within domains of knowledge requires sustained support from nurturing adults. It

rarely if ever materializes solely out of the resources of an individual's mind" (p.112).

Teachers can become effective motivators and provide various teaching strategies to enable their students to become engaged learners through the use of multiple intelligence strategies. Kornhaber and Gardner (1995) stated the following:

> A teacher who acknowledges other intelligences as legitimate ways of knowing stands a good chance of encouraging sustained engagement among her students. Such a teacher can use a student's strength as springboards into various areas of the curriculum....Within individuals there is an array of intelligences and learning styles. These need to be developed by extended and meaningful engagement in authentic domains. (pp. 119, 134)

Through the use of multiple intelligence techniques, a teacher is tapping into each student's modality preference. As stated by DePorter et al. (1999), "While our learning and teaching reflect our modality preferences, research shows that the more modalities we can tap at the same time, the more vivid, meaningful and permanent the learning" (p. 86). Rimm (1997) suggested that teachers should use many strategies including teaching to the multiple learning styles of their students (p. 22). DePorter et al. (1999) added, "By infusing the Multiple Intelligences into our content and teaching design, we help students automatically get more meaning and brain stimulation in their learning, offer them more variety and fun, AND stretch and strengthen their intelligences!" (p. 99).

Project Based Learning and Simulations

In order to motivate students and encourage high levels of achievement, researchers encourage teachers to implement project-based curriculum including simulations. Kornhaber and Gardner (1993) stated the following:

> We also see promise for excellence in project-based curriculum and assessments that focus on genuine, rather than ritualistic, performances in a domain....Because projects take place over time, a successful project usually demands sustained engagement. This is one ingredient for excellence....Another virtue of projects is that their goal or outcome need not be captured wholly or even partly in language or mathematics. Thus, through the project, the students could tap their various intelligences, bring them to bear on the problem, and help each other. (p.131-133)

Simulations are an effective vehicle teachers use to motivate students. In referring to benefits for students and teachers gained from the use of simulations, Hootstein wrote (1994) the following:

> They [students] identified role-playing characters in simulations as the most motivating strategy used by their teachers. Interestingly, teachers also mentioned simulation most often....Teachers also believe that providing vicarious experiences (e.g., simulations, novels, videos) is motivating because they help students to construct mental images of situations that are absent

> from present experience. For example, one reason that teachers believe simulations are motivating is that they give students the thoughts and feelings of living through an experience. Another possible reason for the motivating effects of simulations is that the role playing enables students to identify with a situation they might not be willing to consider or examine so extensively through the medium of textbook print and photographs. (p. 215)

Parent Involvement

Parent involvement seems to be a key, and yet often neglected, factor in insuring student motivation. Wlodkowski and Jaynes (1990) stated the following:

> Based on the research to date, as well as our own clinical experience, parents appear to be the primary influence on a child's motivation to learn. Their formative effect on their children's motivation to learn has an impact at every state of development, lasting through the high school years and beyond. (p. 18)

Cotton and Wikelund (1989) added the following:

> Research overwhelmingly demonstrates that parent involvement in children's learning is positively related to achievement. Further, the research shows that the more intensively parents are involved in their children's learning, the more beneficial are the achievement effects....Programs which involve parents in reading with their children, supporting their work on homework assignments, or tutoring them using materials

and instructions provided by teachers, show particularly impressive results. (p. 3)

Cotton and Wikelund (1989) further discussed ways parents can become involved in their children's education in the following:

> Parents can support their children's schooling by attending school functions and responding to school obligations....They can become more involved in helping their children improve their schoolwork--providing encouragement, arranging for appropriate study time and space, modeling desired behavior (such as reading for pleasure), monitoring homework, and actively tutoring their children at home....They can volunteer to help out with school activities or work in the classroom. (p. 2)

Parents and teachers working together can more effectively nurture a desire for learning in more students," added Wlodkowski and Jaynes (1990, p.22).

Project Objectives and Processes

> As a result of the use of cooperative group and multiple intelligence activities, institution and monitoring of assignment sheets, and self-esteem building activities from January to May, 1999, students in the targeted fifth grade classrooms will increase achievement motivation and improve work completion, as measured by student surveys, journal entries, teacher gradebooks, and kid logs.

In order to accomplish the terminal objectives, the following processes are necessary:

1. Students will be involved in numerous cooperative group activities in each of the subject areas throughout the school year.

2. Lessons and units will be developed using the multiple intelligences during months three through nine.

3. Student work completion will be facilitated by the use of weekly assignment sheets to be monitored by the teachers and parents during months one through nine.

4. Self-esteem of students will be enhanced by the implementation of several self reflective activities, team building activities, and improvements in the classroom climate during months two through nine.

Project Action Plan

I. Activities will be planned which will encourage self reflection and self evaluation during months five through nine.

A. Journal topics

B. Kid Logs

C. Other activities

Examples include The Nourishing Game, Success Sharing, On My Mind, etc.

II. Activities will be planned which build team identity and trust.

A. Teacher directed physical education activities will be planned weekly during months one through nine.

Examples include co-op games such as Partner Pull-ups, Catch a Friend, Toe Lean, etc.

B. Cooperative learning activities will be planned throughout the school year.

Examples include activities such as shuttle teams designing mission t-shirts and crew patches, team problem

solving, group math problem solving, wagon train teams and other team efforts

III. Units will be planned that contain activities based on the multiple intelligences.

A. Ellis Island Simulation--October

Sample activities will include family history research, creating a new identity and family story

B. Space Shuttle Simulation--February

Examples of many of the student activities and the primary intelligences addressed in the activity include:

Space Shuttle Coordinate Graph Activity: Logical/Mathematical

Martian License Plate activity: Visual/Spatial

Design Shuttle Crew T-Shirts: Visual/Spatial

Design Crew Patch: Visual/Spatial

Rocket Cars: Logical/Mathematical & Visual/Spatial

Evidence of Life Experiment: Naturalist

Crater Experience: Bodily/Kinesthetic & Naturalist

Study of Planets: Naturalist,Logical/Mathematical & Verbal/Linguistic

Computer Programs: Logical/Mathematical

Hands-on Space Experiments: Bodily/Kinesthetic

Space Shuttle Floor Puzzle: Bodily/Kinesthetic

Paper Shuttle Airplanes: Visual/Spatial & Bodily/Kinesthetic

Songs of the Planets: Musical/Rhythmic

Space Hop Game: Verbal/Linguistic

Planets Place mats: Visual/Spatial

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Phases of the Moon: Bodily/Kinesthetic

3-D Planet Puzzle Cube: Visual/Spatial

Toys in Space Video & Activities: Bodily/Kinesthetic

Mission Control Activities: All intelligences except Musical/Rhythmic

Shuttle Astronaut Activities: All intelligences except Musical/Rhythmic

Crew Logs: Verbal/Linguistic & Interpersonal

Astronaut Journals: Intrapersonal & Verbal/Linguistic

C. Trails West

Examples of many of the student activities and the primary intelligences addressed in the activity include:

Journal writing: Verbal/Linguistic & Intrapersonal

Map work: Mathematical/Logical & Naturalist

Problem solving: Interpersonal

Extra credit projects: All intelligences

Fates: Emotional

D. Night on the Nile--Ancient Egypt

Examples of many of the student activities and the primary intelligences addressed in the activity include:

Salt map: Logical/Mathematical, Visual/Spatial/, & Naturalist

Hieroglyphic writing: Logical/Mathematical, Verbal/Linguistic & Visual/Spatial

Pyramid construction: Visual/Spatial & Logical/Mathematical

Tomb construction: Bodily Kinesthetic, Logical/Mathematical, & Visual/Spatial

Study and construction of various forms of architecture: Bodily/Kinesthetic, Visual/Spatial, & Logical/Mathematical

Making and playing musical instruments: Musical, Visual/Spatial, & Logical/Mathematical

Novel reading and reflective writing: Verbal/Linguistic & Intrapersonal

Time lines: Logical/Mathematical

Museum simulation: Interpersonal, Bodily/Kinesthetic, & Musical/Rhythmic

Scarabs: Naturalist

IV. Opportunities will be planned throughout the second semester in which students will be allowed to make choices about types of evaluation, projects, activities, etc.

Examples would include book reports, cell projects, Trails West extra credit projects, Egyptian projects.

Methods of Assessment

The problem of low student achievement motivation leading to poor work completion will be documented by student, teacher, and parent surveys. Also used as documentation of the problem will be teacher gradebook, homework completion charts, and site statistics reflecting work completed by the targeted students during each quarter for the previous school year and the first quarter of the current school year. Teachers will keep "kid logs" to chart special interests, strengths, concerns, weaknesses, hobbies, etc. of each child. Teacher gradebooks will be used at the end of the each special unit and at the end of the year to assess academic

achievement. Student journals will be used to assess student attitudes and interests. Homework completion charts will be maintained throughout the school year and will be evaluated at the end of each quarter and at the end of the year to assess work completion records per student. Reflective journals which allow parents and students to reflect on the fifth grade school year will be sent home with each child in May. These journals will be returned and evaluated in terms of the thoughts and feelings of parents and students about the years activities.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to increase student motivation and work completion in the targeted fifth grade students. One goal was to make students aware of their homework attitudes and practices through the use of surveys. An additional goal was to encourage students to become responsible for work completion through the use of assignment sheets and organized classroom procedures. The goals also included motivating students to be interested in their school subjects through the use of self-esteem building activities, cooperative learning activities, multiple intelligence activities, and an integration of these teaching methods into multi-discipline teaching units. Parent involvement was a final factor that was imperative to the success of many of the stated goals.

Surveys

Three student surveys were administered during the first week of school. One of the surveys, entitled Fifth Grade Homework Survey, was designed to gather feedback from students regarding their past experience with homework.(Appendix A) They were asked for information regarding adult monitoring of homework, amount of time spent on homework, whether they completed homework on time in previous grades, etc. The teachers compiled this information and used it to evaluate the past practices and needs of their

students. Researchers determined from this survey that most of the students felt that they had completed homework on time in the past and that some adult checked their homework to see that it was completed. They also indicated that they had a particular table or desk space designated for working on homework. They indicated that in the past they spent thirty minutes or less on homework on any given evening.

Another survey entitled Getting to Know Fifth Graders was given during the first week of school.(Appendix B) This was an attitude survey regarding students' fears, concerns, and hopes for the school year. Also included were questions which allowed students to indicate their academic strengths and weaknesses and areas in which they would like to improve. Researchers compiled this data and found the subjects by which the students were most challenged and in which ones they had the greatest successes. Other information included specific concerns and attitudes regarding school. From the data collected in this survey, researchers found that the majority of students felt it was very important to do well on school work. They seemed to feel that their performing well in school was also important to their parents. One other significant finding was that half of the students indicated a concern about homework in fifth grade. They did not indicate whether the concern was about the amount of homework they might have or the difficulty of the assignments.

At the end of the first quarter, work completion by some of the targeted students continued to be a problem area. The researchers wanted to have the students reassess their homework practices. Therefore, the student homework survey was

readministered. The results were discussed with the students in an attempt to help them to realize that the problem was much more prevalent than their answers indicated.

Homework/assignment sheet procedures

Interventions were begun on the first day of school with the introduction of weekly assignment sheets. A daily procedure for recording homework assignments was discussed with the students. The assignments were to be written on the chalkboard in a designated location near the door throughout the day as the assignments were made. At the end of the day, five minutes were to be set aside so that students could have time to write assignments on the assignment sheets provided by the teachers.(Appendix E) The assignment sheets were specifically designed to create interest and motivate students to want to use them. Although the format was very basic with each subject listed for each day, a date recorded at the top of the sheet and a place for the student name, the sheets themselves were enhanced with color graphics. Each sheet's graphic had some relevance related to special classroom activities for the week, a special school function, or a holiday. The point of this feature was to ensure that the students would want to receive the week's new sheets and would remember to use them.

Each day, the teacher would write the assignments on the board and give oral reminders as the children recorded the assignments on their assignment sheets. During the week, the assignments were checked in first thing in the morning. This first intervention was successful with some of the students. As was to be expected with any new homework procedure and the greater

volume of homework in fifth grade, several students had difficulty getting used to the procedure. Some students did not write assignments down completely, and several students did not complete and return assignments on time even with this procedure in place. It became obvious to the researchers that some students had the potential of having serious work completion problems. [Student dd], for instance, had eleven assignments missing during the first two weeks of school. [Student ll, Student w, and Student cc] each had six missing assignments. [Students c, d, h, i, o, p, q, t, v, x, y, and ee] all had three or more missing assignments during the first two weeks of school. These statistics indicated a need for further intervention.

Each day as assignments were recorded on the assignment sheets, the students were reminded of the importance of writing the assignments down carefully and completely. For some of the students with problems writing assignments down correctly, the researchers required that these students show a correctly completed assignment sheet to the teacher before exiting the room for the day. Also, each morning as homework assignments were checked in, missing assignments were recorded on a classroom chart. This procedure was continued throughout the month of September with the researchers carefully monitoring work completion. The problem of incomplete assignments also continued with over one third of the students still experiencing difficulty getting work completed and turned in on time.

Due to the continued problem with homework completion, starting the first week in October two other aspects were added to this procedure. Any student who had all assignments completed

would receive a sticker at the top of the assignment sheet for that day. Students who had missing assignments were not given a sticker. Instead, a note was written at the top of the assignment sheet indicating which assignment was missing. At the same time, the teacher made a notation indicating the child's missing assignment on the assignment chart kept in the classroom.

As part of this classroom procedure, the assignment sheet was to be taken home each evening so that the students would know what assignments were to be turned in the following day. The parents were informed via a classroom newsletter that this procedure was in place.(Appendix F) Parents were encouraged to check regularly to see that assignments were being completed. A further attempt to involve parents in the monitoring of work completion was to require that each child have a parent sign the assignment sheet at the end of the week. Parent signatures indicated parents saw the assignment sheets and guaranteed that they were informed about their child's weekly homework progress.

An added incentive for this monitoring program involved the use of a reward activity period during the school day near the end of the month. Students who missed no more than two assignments during the month were rewarded with a special activity such as a movie, game period, etc. Students who missed no assignments were given an additional treat such as juice, chips, or a candy bar during the special activity period. Students who did not qualify for this special activity due to missing more than two assignments used this time to complete missing assignments and to do work designed to reinforce skills such as math practice, writing, or reading activities.

Students were carefully informed of all aspects of this homework procedure. At the end of the day they were asked to help review what assignments were due and by what date. They were allowed to offer other suggestions to be recorded such as the bringing of band instruments, returning library books, book order due date, etc. They were involved in the distribution of the stickers and the recording of their assignments. They were also involved in the selection of the reward at the end of the month.

Work completion did not visibly improve for some students. Many of those students who exhibited problems with work completion during the first two weeks of school, continued to be unsuccessful in completing work at home. For example, [Student c] had seven missing assignments in October, [Student d] had eight missing assignments. Records kept by the researchers indicated that over one third of the students were still exhibiting problems with work completion.

An additional step to this procedure soon had to be added when this program failed to help some students complete homework regularly. Those students who continually had late or missing assignments were required to have the teacher sign the assignment sheet daily after the assignments were written down indicting the accuracy of what they had written. The parent, then, was required to sign the sheet each evening as the assignments were completed. This arrangement was worked out with the parents either at conference time at the beginning of November or through a phone conversation. This intervention was in place for the entire second quarter. This procedure was used for only six students out of the 38 fifth graders. This added dimension proved very

successful with four out of the six students. These four students had only one or two missing assignments for the month of November. They each qualified for the reward activity at the end of the month. The other two students showed no appreciable improvement. The researchers attributed this lack of improvement to the failure of the parents to follow through with checking for completed homework each evening. The parents would sign the assignment sheet each day, but did not actually check to see that the assignments were completed. After only a couple of weeks, these parents discontinued signing the sheets at all.

Overall, the homework procedure was successful for most of the targeted students, and the researchers continued using this procedure throughout the first semester. Seventy-one percent of the students qualified for the reward activity at the end of November. Due to the shortened attendance period and fewer assignments being given, statistics for the month of December were not included in this study. In January, 75% of the students qualified for the reward activity.

Reflecting on the results of the statistics for the first semester and being dissatisfied with the 75% success rate, the researchers determined that all students would benefit from further interventions. The homework procedure would continue to be used during the second semester. However, in an attempt to increase self-esteem, student motivation, and student interest, the researchers would add additional interventions. Homework completion statistics would continue to be monitored for the second semester.

Due to past experience with fifth grade students, the researchers had discovered that the last six weeks of school could present a decrease in student work completion. A final step was added to the incentive program for the last six weeks of school. Students were given a calendar of special events such as field trips, track and field day, special programs and assemblies, etc. The students were informed that attendance and participation in these events would be earned by completing work on time. It was explained that students who missed four assignments during this time would miss the next special event. After the initial missed event, students would continue to miss events for each two assignments that were missing. The researchers were aware that this type of extrinsic intervention was not conducive to building self-esteem, but that it was a necessary step for guaranteeing certain targeted students would continue to complete assignments.

Self-esteem

While some self-esteem building practices were in place from the beginning of the school year, many self-esteem building activities were instituted in January. One of the interventions included the use of student journals on a weekly basis. The teachers presented binders as Christmas gifts to each student. These binders would be used as student reflective journals. Special colored pens were given as well. These materials were chosen to make the journal writing special and interesting to the students. Special journal pages were printed, many with color graphics, which would interest and motivate students to want to write.(Appendices G and H) Such topics were assigned as "Something that really ticks me off is...", "The thing I am most

proud of is...," "Something few people know about me is...," etc. Journal entries were specifically chosen and designed that would encourage self-reflection. Each journal entry was read by the teacher but no comments were written directly on the journal entry pages. Instead, post-it notes were used to add teacher comments. Comments were designed to show students that the teacher was interested in what was written, related to what was written, and understood the feelings and emotions of the child.

An additional aspect of this intervention was the use by the teachers of Kid Logs. The teachers kept large index cards attached to a clip board. Each card had the name of a student. As the teachers read the journal entries, they recorded on the Kid Log cards special notes or memos regarding the child such as special interests, fears, hobbies, etc. These kid facts could then be used to make special connections with each student. An example would be to use these facts when a child was having a particular problem in a writing assignment. The teacher could mention a particular topic that the child had expressed an interest in to motivate the child to write, etc.

These journals were very popular with the students. They were excited to receive them as Christmas gifts and anxious to be able to write in them. They often asked for a chance to write in their journals. They also were eager to get the feedback from the teachers about their journal entries. Journal entries were very enlightening for the researchers as far as gaining additional insight into the students. The journals and Kid Logs helped the teachers make further connections with the students, therefore, increasing student self-worth and self-esteem.

Cooperative Learning

Cooperative group activities were used throughout the school year. Various class seating arrangements were used to facilitate cooperative learning. Sometimes the teacher selected groupings and sometimes the students were allowed to do so. These cooperative groups were used in all subject areas at various times during the day. During the first semester, a number of activities were planned that would reinforce the need for cooperative efforts and would foster team dependency. For instance, during the Lunch on Ellis Island experience, the students were organized into family units. They created their own family identity and history, and then enacted their entry into Ellis Island as an immigrant family. Also, during the Teacher Directed Physical Education periods that were planned by the researchers, special team activities were planned which required team interaction and effort, and which were specifically designed to be trust-building.

During the second semester, these cooperative activities were incorporated in the major multi-discipline units. One such activity was the space simulation. Each child was assigned to a space crew. As members of the crew, each child had individual duties. In addition, the children worked throughout the entire 24-hour space simulation with the crew to problem solve and to involve themselves in each activity center.

Another such activity was the use of the Interact unit called "Trails West." Students were again organized into teams. Each team represented a wagon train moving west along the trails headed for the imaginary Hacker Valley in Oregon. The team was involved in many activities wherein the members had to problem solve and

come to a consensus on the best course of action along the trail. Students were also involved in creating extra credit activities together to help their wagon train move along the trail.

Along with these major units involving the use of cooperative activities, many lessons were planned in each subject area that incorporated the use of cooperative groups as well. Such lessons included graphing activities in math, small discussion groups and project groups in social studies, and expert groups jigsawing research materials in science. In reading, such groupings often were used. Job assignments in each group included vocabulary enricher, discussion director, checker, and literary luminary. Students were in charge of planning and teaching the materials for the chapters assigned during the reading of the novel. This group activity relied heavily on team work and individual effort. The cooperative group lessons ended with the processing of the social skills focused on that day. Students were allowed to evaluate group successes and problems in various ways including written evaluations, fist-to-five, thumbs-up, wrap-arounds, etc.

These targeted students were particularly adept at working in cooperative groups. Most of the students had attended school together for four years prior to the year of this study. New students to the school were openly accepted into the classroom and into the cooperative group activities. Most of the students were eager to work together and benefited from the many cooperative activities.

Multiple Intelligence Lessons

In an attempt to peak student interest, provide challenges to all students, and to enhance student motivation, the teachers

designed numerous lessons and units centered around the multiple intelligences. In a unit on plant and animal cells in science, the students were evaluated on their knowledge of cells through self-selected cell projects. Directions were purposely kept to a minimum allowing students to use their own creativity and to select their own medium as they created a representation of a plant or animal cell, labeling the cell parts. Students brought in cells made of jello and other food items, Styrofoam, poster board, computer graphics, clay, and many other unique representations demonstrating their knowledge of cells.

Other activities which encouraged the use of the multiple intelligences were book reports, one-act plays, trails west projects, a photosynthesis activity, etc. For some of these activities students were first allowed to create rubrics which would be used for evaluative tools. Then students were encouraged to create projects, reports, etc. that would demonstrate knowledge of the subject studied while allowing freedom of choice for materials, personal interests, and students' modality preferences.

Most of targeted students eagerly participated in the lessons described above. The creative projects brought in by the students were outstanding. Students took advantage of every opportunity to demonstrate their own talents and interests. Many students often requested opportunities to create extra projects for different subject areas. The use of rubrics created by the students beforehand enhanced the success of these lessons because students knew the criteria on which the projects would be evaluated.

Multi-discipline Units

Space Shuttle Simulation

As research suggests, the use of simulations, hands-on activities, cooperative learning, and the incorporation of multiple intelligence activities can promote positive self-esteem, a sense of belonging, motivate participation, and enhance student interest in school. Therefore the teachers designed a series of units which would incorporate all of these aspects or teaching strategies.

One such unit was the study of space. The space unit began on January 19, 1999, and continued through March 19, 1999. This unit was made possible through the targeted school district's education grant foundation, NASA's Educational Resource Center, and donations from local businesses. The targeted fifth grade students were immersed in the study of space during daily forty-minute science classes. The teaching materials used in this space study evolved from computer software, numerous books, NASA educational materials, slides, video tapes, puzzles, space songs, donated t-shirts, a button making kit, teacher-made student booklets, hands-on activities, a space shuttle assembled by parents, Star Lab, and NASA Lunar Rock Samples.

The unit began with the study of the origin of the universe; earth's seasons; the planets and their structure, size, and distance from the sun; our moon; the space shuttle; training of the astronauts; and many other space related topics. The students studied the planets through the use of NASA videos, computer software, trade books, and bodily/kinesthetic activities that demonstrated the size of the different planets and their distances

from the sun. One such activity was an activity involving the bodily/kinesthetic and logical/mathematical intelligences in which the students recreated the solar system to scale on the playground. The scale was 46,000,000 miles: one meter. The students used string in various lengths to map out the solar system on the playground.

While studying the planet Mars, the students made Mars license plates for the future vehicles that will be driving around the planet. They used their knowledge of the planet and their creativity to develop these visual/spatial multiple intelligence license plates.

A book about the sun was shared with the students as they studied the sun and its layers. The students then made a sun book which was a visual representation of the layers of the sun. Students wrote in their own words about the makeup of the sun.

An activity that incorporated the visual/spatial, bodily/ kinesthetic, verbal/linguistic, and the naturalist intelligences as well as cooperative learning (interpersonal and intrapersonal intelligences) was an activity called Rucremy. The students investigated samples from a newly discovered planet deep in space. They observed the planet samples by using their senses of sight, touch, and smell. The planet material actually was made from water, food coloring, and cornstarch. After careful experimentation, the students answered the questions on the worksheet entitled "Rucremy". The next aspect of this activity involved the students working in cooperative groups to design a spacecraft that could land on this new planet with a load of passengers, explore the area, and take off again. Cooperative

group roles were assigned as follows: materials manager, time keeper, recorder, reporter, and encourager. Teacher observation revealed that all students were actively engaged throughout this activity.

The targeted school's PTO provided students with an assembly called Star Lab. Star Lab is a large inflatable planetarium in which the students enter and observe the constellations projected on the dome of the lab. Student interest in this activity was evident. The teachers observed many students checking out library books and asking for more information on the constellations and stars. The teachers then provided an activity in which the students made their own star finders and star clocks. The students were trained on how to use these tools. Students reported that many of them, along with their families, went out at night to locate stars and constellations.

The next science study was of the moon. The students viewed slides from NASA on the moon and lunar exploration. The teacher enabled the students to see the phases of the moon by letting each student stand in front of an overhead projector while holding a three-inch Styrofoam ball on the end of a pencil. The students were told that they were the earth, the Styrofoam ball was the moon, and the overhead projector was the sun. The students then held out the Styrofoam ball at eye level about an arm's length away from their faces. The students turned around and the overhead projector's light illuminated the surface of the Styrofoam ball. As they rotated they could see the different phases of the moon as observed from earth. Then the students successfully completed a flip book showing the phases of the moon.

The teachers involved in this research are certified to receive lunar samples from NASA. Upon the arrival of the lunar samples, the students studied about the various rock and soil samples obtained by the Apollo astronauts. The student also watched slides and a video provided by NASA in which the theories of the origin of the moon, as well as moon exploration, were presented. Another activity involved the students' making impact craters. The students were given foil pans containing a layer of flour, cornmeal, and purple colored sand. They dropped marbles and stones of different shapes and sizes into the mixture to see what craters they would create. This section of the space study involved many of the multiple intelligences. The students reflected in their journals about this lunar experimentation study. All of the students had positive comments about this study.

This space unit study involved a twenty-four hour space shuttle simulation in which the targeted fifth grade students worked in cooperative crews to man Mission Control and the 22-foot space shuttle. Also, as a team unit, they rotated through ten learning activity space stations.

This simulation required extensive parental support. Prior to and during the shuttle simulation we had 27 parent volunteers representing 75 percent of the targeted fifth grade students. Some parents worked on the food committee in which they made the menu for a dinner, breakfast, and an evening snack for the students during the 24-hour period. Some parents worked to get community donations for the food, t-shirts, and disposable cameras to be used by student space crews. Other parents worked on

serving the food and cleaning up after the meals. A group of volunteer parents worked alongside the teachers in moving and constructing the 22-foot long space shuttle. Many parents were used to supervise the ten learning space stations that were designed by the teachers. A parent assembled the crew buttons that the students designed. Another parent helped put up bulletin board displays about space. This project proved to be another successful way of getting parents involved in their children's education.

The thirty-eight targeted students, along with four special education students, were put into groups of three or four students to work as astronaut crews during the 24-hour space shuttle simulation. The crews were selected by the teachers and students were assigned roles within the group. Within each crew, individual members served as Mission Commander, Mission Specialist, Medical Specialist, Media Specialist, or Communication Specialist. Each of these roles was clearly defined and the astronauts were trained for their specific roles. For instance, the Medical Specialist was trained by the school's nurse on how to take blood pressure, pulse, and body temperature of fellow crew members. During the mission simulation, the Medical Specialist took and recorded the vital signs of the astronauts and directed the exercise schedule. The Mission Specialist on the shuttle was responsible for deploying a satellite (a helium balloon with a message about the mission) while wearing a mock-up of a real EVA (Extra Vehicular Activity) suit. The Communications Specialists and the Media Specialists from both Mission Control and the shuttle crews worked together on press releases about their

mission. The Mission Commander was in charge of all members of the crew, operated the computer, and at times had to make the final decision regarding problem solving.

The crews worked on team-building activities such as designing and making crew t-shirts and buttons. Each crew had a specific time table to follow, so they were taught to follow a spreadsheet in order to know where and when they were to be at a given location or activity station. The crews manned Mission Control and the space shuttle for two hour shifts. While in the shuttle and Mission Control, the astronauts communicated by headsets and television links. From the shuttle, the astronauts viewed earth on a television screen, and they could see Mission Control on another screen. At Mission Control, students and observers could see the shuttle astronauts from inside the space shuttle.

During the two hour shifts, the Mission Control and space shuttle crews worked together on many activities. One such activity was to locate a lost space probe. This was one of four problems in a computer software program called Solar System Rescue by Tom Snyder Productions. All astronauts in Mission Control and the shuttle were required to exercise on various exercise equipment just as NASA astronauts do. Also, both crews cooperated and worked on coordinate graphing exercises.

Only two crews at a time were engaged in the Mission Control and space shuttle experience. The other crews rotated among ten learning stations. These stations were designed to involve all the multiple intelligences and to ensure engaged learning.

The first of these stations was entitled Fizz Pop Rockets. The students and the parent volunteers first viewed a slide presentation from NASA on propulsion. Then the crew, along with the parents, made fizz pop rockets using 35mm film canisters, effervescent antacid tablets, and water. This hands-on activity demonstrated propulsion and Newton's Third Law of Motion.

Another learning station involved coordinate graphing and a solar system floor puzzle. The students followed a complex set of coordinate pairs to draw a space shuttle. As a crew, they put together a giant floor puzzle of the solar system.

Rocket Cars was another station. With the help of a parent volunteer, the crew members constructed a rocket car using a compass, ruler, Styrofoam trays, paper, pencil, flexible straw, balloon, tape, and pins. The rocket cars demonstrated another one of Newton's Laws--action/reaction.

The Evidence of Life station was an investigative station where crew members examined soil samples (teacher-made) supposedly taken from various planets. The students had to decide if there was evidence that life could exist on the planet. There were three samples for each crew to examine. They used water and magnifying glasses to examine the samples. The samples were plain sand, sand with yeast, and sand with Bromo Seltzer.

To demonstrate the difficulty of working in space, a station was made to give the students hands-on experience of space construction. Various materials were used in this station. One was a mechanical robotic arm in which the students had to move and stack various objects. A long grasping tool was used to manipulate different objects. Heavy gloves were worn while the

students manipulated nuts and bolts and screwed a light bulb into a socket.

Loreen Leedy's book, Postcards From Space, was read by the parent volunteer. Afterwards, the students wrote postcards and illustrated an aspect of space for a fellow student. The postcards were mailed and each student received a postcard at home through the mail the week after the simulation.

A NASA film called Toys in Space and actual toys were important parts of another space learning station. The students were instructed to play with the various toys and note how they moved and reacted on earth. They then had to write down their predictions on how those same toys would react in microgravity. During one of the space shuttle missions, astronauts had experimented using these toys to see how they reacted in microgravity. The astronauts were video taped. The video tape from this mission was played in this station. The students were able to see how the toys performed in space and evaluated their predictions.

At one space station, the students followed written directions on how to make a paper space shuttle. They also read a book on making paper airplanes and then designed their own. The parent volunteer then took the students to an open area in which they could test fly their airplanes.

The planets and their positions in our solar system were the study of the next station. The students investigated different books and printed materials about the planets. They then made solar system placemats that were later laminated. They also were able to listen to songs about space.

The computer station was the last investigative station. The students were able to use a variety of computer software on space. They also were able to use the Internet to investigate many bookmarked web sites on space.

The student astronauts did journal writing while in Mission Control and the shuttle as well as other times during the simulation. After the simulation, students wrote letters to the teachers about the experience. They indicated high interest and preference for different types of learning experiences. They were highly motivated and invested in their learning throughout this unit. In their comments made in these journals and letters students revealed their thoughts and attitudes regarding cooperative team efforts and the simulation and hands-on activities themselves.

The following were among student comments in their space logs which related to the use of cooperative learning:

"We worked together by helping each other...We worked good together." [Student i]

"Teamwork is important because it helps us on what we are working on. Also it brings us more closer [sic] to each other." [Student t]

"Teamwork is important because you can get work done quicker and you can share information." [Student kk]

"...If you weren't working together, you would be miserable because no one would help you figure it out." [Student mm]

"I really liked our crew because we cooperated." [Student jj]

"Our teamwork made this really fun and exciting." [Student e]

These comments showed that the students felt they benefited from hands-on activities and simulations:

"I like having this experience than just reading it out of a book and taking a test [sic]. I prefer doing a bunch of activities. It is easier to learn this way." [Student s]

"In my opinion, I would rather learn about space this way than out of a book because this is just like real life." [Student h]

"I think it's better to do stations (hands-on) because I think it is easier to memorize by doing things than by just reading a book." [Student j]

"I'd rather learn by activities because I think it's funner [sic] and I learn more." [Student l]

"I think doing the 24-hour space is more educational because it is hands-on, and it is more fun for the students and they look forward to learning." [Student g]

"I feel like I'm really up in space." [Student mm]

"I think it's better to learn with fun." [Student u]

Student interest was evident in the following quotes:

"We were really excited when we entered the space shuttle." [Student f]

"I was very excited when I saw the shuttle. It was so cool." [Student o]

Parents of the targeted students expressed their support and enthusiasm for this unit in letters and notes sent to the teacher/researchers after the space simulation. Some of the letters included the following comments:

"You really went all out for the children and the result was the best kind of learning experience possible--learning by actively doing. It was a well-planned program, and the children were serious and involved in the many activities....He couldn't stop talking about how much he enjoyed the night....the results were truly exceptional." [Parent of Student f]

"The studies of our planetary universe, the use of computer programs, and the cooperation between the students was a superb learning experience....Whenever students can become so engrossed and excited about school, learning definitely occurs." [Parent of Student kk]

"Not only did the students learn about space and history, but they learned how to work together to achieve goals. My son was very excited about this unit of study. He would talk about information about which he was learning daily. It was pleasing to see him excited and energetic about his studies." [Parent of Student jj]

The principal added his praise and comments in the district newsletter for and about district employees when he said he's "never seen a better example of providing meaningful educational activities at every station."

Teachers observed increased student motivation for school work in general after this unit. In fact, of the 36 targeted students who participated in the space simulation which was a major science unit lasting one month, only six students had any missing science assignments during that time period, and each of those students missed only one science assignment. Student interest in learning about the topic of space carried on well

beyond the end of the unit. One of the lower ability students who had previously shown little motivation for learning, continued to bring in books and articles related to space and Discovery missions through the end of the school year. In addition, students eagerly looked forward to the Egypt unit which was to follow.

Egypt Unit

Another thematic unit involved the study of ancient Egypt. This unit also included the use of cooperative learning groups and multiple intelligence activities. The initial activity designed to introduce and build background knowledge was a jigsawing activity in which students read and shared an overview of several topics relating to ancient Egypt. After this two-day activity, students were then involved in an immersion of fiction and non-fiction materials and activities directed by the teachers.

Within the regular classroom setting, students were investigating the ancient practice of mummification, the Egyptian gods and goddesses and religious beliefs, hieroglyphics, architectural structures (tombs, temples, pyramids, etc.), life of the common people and of the royal class, and many other aspects of ancient Egyptian culture. Lessons were planned using multiple sources including trade books, computer programs, Internet sites, encyclopedias, magazines, as well as teacher activity guides, etc.

Along with these studies, children did many writing activities including creating an ancient Egyptian newspaper, making a modern day mummification recipe, compiling an alphabet of Egyptian vocabulary terms, and journal writing. Other activities included in the classroom study were drawing like an Egyptian

(two-point perspective), designing a sarcophagus and a burial tomb, and creating a family portrait depicting their family members as gods.

A major aspect of this unit allowed students to become "experts" in various fields of study. For example, an individual or a small group developed expertise in the area of Egyptian music, foods, architecture, boats, the Nile, royal crowns, gods and goddesses, etc. That group or student researched materials regarding the specialty area. They took notes and wrote a presentation that was presented orally at the culminating event.

During the several weeks that this unit took place, students were involved in other multiple intelligence activities as well. Individuals and small groups were pulled out of the classroom to work on more involved projects depicting life in ancient Egypt. One of the projects was the making of paper masks of some of the Egyptian gods and goddesses. Another was the creation of death masks using plaster cloth. Students also worked to make models of Egyptian houses, temples, obelisks, and pyramids. They made models of boats of the Nile, a salt map of Egypt, weapons, tools, musical instruments, jewelry, and clothing. They made amulets and shabtis, mummy tags, sculptures of the gods Bast and Anubis, and three-dimensional scenes of the farming seasons. Students made and played many Egyptian games such as Mancala, the Serpent Game, spinning tops, and Senet. A large replica of the Nile River at Giza was made including the three major pyramids, step pyramids, and the sphinx. Houses and farms were placed along the Nile. The largest project was the construction of an eight by ten foot

Egyptian tomb. The tomb included artifacts gathered and made by the students to replicate a pharaoh's tomb.

The culminating activity for this unit was called Night on the Nile. Community members, parents and other family members, school board officials and administrators, etc. were invited to attend this museum-like event. All of the projects the children created were displayed throughout the classrooms and library. Each of the students dressed in costumes as ancient Egyptians, archaeologists, or museum docents. The student "experts" acted as tour guides to share what they had learned about their area of expertise. In addition to the museum experience, visitors were treated to several special reenactments and performances. Various students reenacted the mummification ritual, wove cloth on an Egyptian loom, played musical instruments, sang and danced to modern day songs about Egypt, or performed original poetry selections.

A follow-up portion of this unit was a field trip to the Field Museum in Chicago. The children were directed foremost to the Egyptian displays. They saw an Egyptian tomb and actual artifacts from ancient Egypt.

Students were evaluated within these units in a number of ways. The teachers graded worksheets and other paper-pencil activities, and made observations regarding student engagement and cooperation. Students journaled, took quizzes, and produced projects and products to exhibit what they had learned. Letters and comments from students, parents, and administrators were used to evaluate the success of these units.

The following are excerpts from student reflective journals:

"Egypt was one of the most fun units ever. It gave us a chance to learn and have fun. Some of us could be Egyptologists some day...I'll never forget fifth. I haven't even left yet and I already have watery eyes." [Student f}

"I learned a lot in Egypt...At first, I thought it would be scary talking in front of a group of adults but as Night on the Nile went I became loose [sic]. It was a great experience for me." [Student g]

"I enjoyed when the people came and we got to talk to them on our project. Usually I am shy but this time I wasn't. I learned a lot of things about Egypt." [Student ff]

"The things I enjoyed about Egypt were doing the projects....I also enjoyed doing the Walk Like an Egyptian song/dance. I even got to do my report on someone I have wanted to do since second grade. Which was CLEOPATRA!! [sic]" [Student s]

"I loved our unit on Egypt....I'm glad I was doing mummification! I really liked the boy's dance "King Tut"! [sic] My parents liked it too!" [Student n]

"Although we got a lot of homework during Egypt, it was still fun. I learned soooo much during the 6 [sic] weeks of Egypt....My parents and I really, I mean really enjoyed it." [Student mm]

"I thought Egypt was awesome. I had alot [sic] of fun learning about all of the cool things. I never new [sic] about Nefertiti. I liked to have the responsibility to teach people all by myself. My mom was really proud of me. I made a costume all by myself. My mom said that I have a lot of tallent [sic]. She

was proud that I memorized my whole speech all by myself." [Student bb]

This unit was completed just prior to the end of the school year. Students and parents were extremely excited and motivated by this unit, especially the culminating activity, Night on the Nile. This closing activity was particularly successful from the aspect of parental and community support. The 36 students were represented by over 130 family members and guests. This count did not include guests of the teachers, administrators, community leaders, etc. The students were able to exhibit their projects, but more importantly, show off their extensive knowledge about the topic of their research. Their personal pride was evident. They were able to end the fifth grade year on a very positive note and with feelings of success and self-worth that would accompany them to middle school.

Parent Involvement

Parent involvement was determined by the researchers to be important for student success in work completion as well as self-esteem and student motivation. Therefore, the researchers attempted to involve parents in as many aspects of the school day as possible. Parents were directly involved in the monitoring of homework completion. They were informed of the procedure and were required to check the week's work completion and sign the assignment sheet each week.

In order to keep parents involved and informed about the school activities, lessons, tests, etc., researchers sent home a weekly newsletter.(Appendix F) Parents knew to expect this letter

every Friday. Many parents commented that they looked forward to and depended on this letter to keep them informed.

Another device used by the researchers to keep parents informed about student progress was the use of monthly progress reports. These computer generated reports included all assignments given for each subject and indicated a grade for each. Zero grades were indicated for missing assignments. Parents were required to sign and return these reports to indicate that they had seen them. Further communication at times was needed for certain students. Phone calls, notes, and special conferences were implemented as needed.

Parents were encouraged to assist their students in the many multiple intelligence projects that were created at home, and many did so. However, the most successful parental involvement took place during the multi-discipline units. Eighty-three percent of the students had parents volunteer to be involved in some aspect of the Space Simulation activity. Many of the students had both parents involved and some even had grandparents involved. One hundred percent of the students had parents attend the Night on the Nile and all students had costumes which involved parent support and involvement. These statistics showed greater parental participation than researchers had experienced in previous years.

Parents were also included in the many out of school activities. For instance, numerous parents requested to be included in the Olympic Day and in the field trips. Parent involvement in these activities was crucial and quite successful.

Parents appreciated the opportunities afforded them to be involved with the students' many school activities. When offered

the opportunity to comment in reflective journals at the end of the school year, 92% did so.(Appendices I and J) Among the comments regarding involvement in the school were the following:

"Being so involved with the school work my kids are involved in helps me remember my education and brings up lots of family discussions." [parent of Student b]

"The support of the parents was especially noticeable but I think the example of the school's teachers was behind this. Their leadership motivated parental involvement. Keep developing this concept!" [parent of Student f]

Presentation and Analysis of Results

In order to assess enhanced student motivation as evidenced by improved academic growth and increased work completion, the classroom work completion charts, the school work completion incentive program, students journals, Kid Logs, teacher gradebooks, the B.U.G. (Bringing Up Grades) program, and end-of-the-year reflective journals were used.

Data indicating academic growth for the targeted students was gathered from teacher gradebooks. The researchers compared letter grades for the first and second semesters for each student. This information was analyzed by subject since grades were reported by subject each quarter. For the sake of this report, improved academic achievement was indicated if the student maintained an "A" average or improved by one or more letter grades. In all subject areas, more than half of the students showed academic growth based upon this criteria. Academic growth was achieved by the following percentages of students in each

subject area between the first and second semesters as shown in Table 1.

Subject	Percent of Students
language/grammar	86%
spelling	86%
reading	69%
science	64%
social studies	64%
mathematics	58%

Table 1. Percentage of students showing improvement in each subject area.

Each day the researchers charted assignment completion for each of the targeted students. This information was compiled at the end of each semester as shown in Figure 4. Data indicated that five students had no significant problem with work completion throughout the year having missed two or less assignments for any given quarter. The data in Figure 4 was analyzed to determine whether students exhibited work completion problems; and if they did, whether they improved, stayed the same, or failed to improve in work completion as shown in Figure 5.

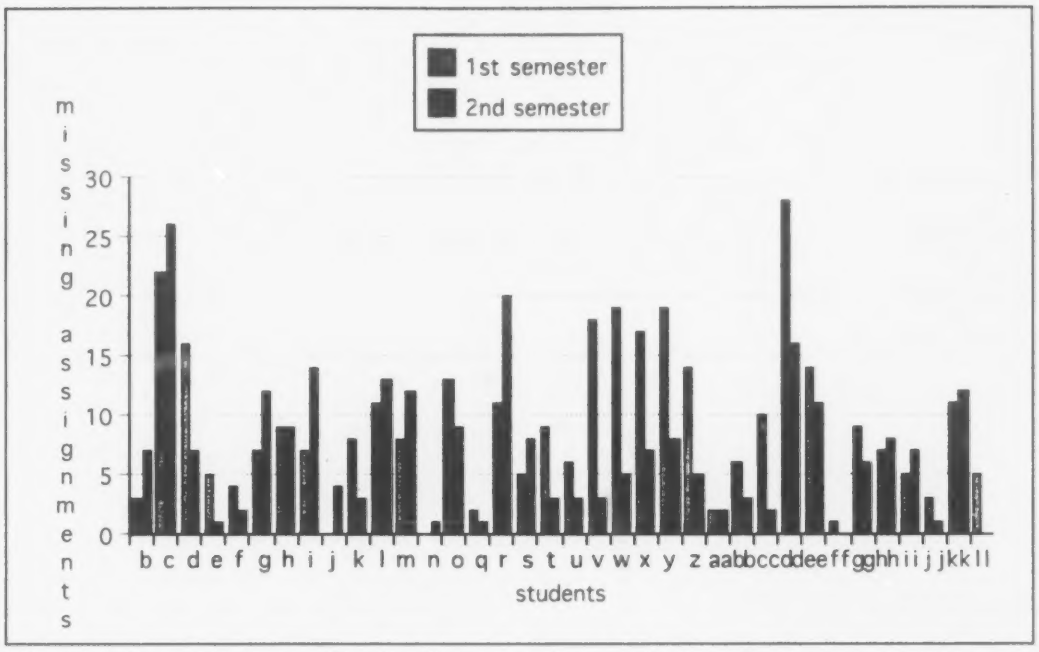

Figure 4. Number of missing or incomplete assignments for each targeted student for first and second semesters.

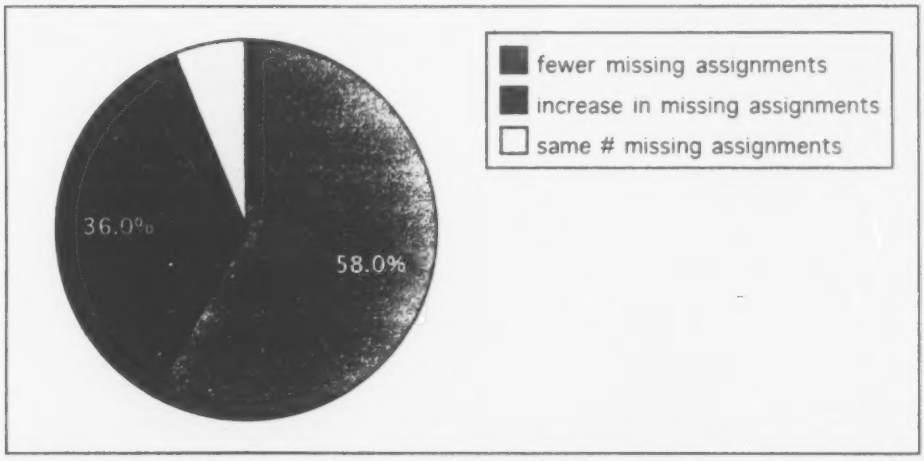

Figure 5. Comparison of targeted students' progress regarding homework completion from first semester to second semester. Slices indicate percent of students in each category.

Of the total number of targeted students, 58% had fewer missing assignments for the second semester than the first, 0.6% had the same number of missing assignments for each semester, and 36% of the students actually showed an increase in missing assignments for the second semester.

This intervention appeared to have had a positive effect on the targeted students. Positive student interest and enthusiasm were evidenced by comments in student journal writings, by the eager student participation in special projects and the interdisciplinary units, and by comments and participation of the parents. The inclusion of multiple intelligence activities, authentic assessment opportunities, simulation activities, and cooperative learning experiences seemed to improve motivation and interest in school work among the targeted students. Student work completion and academic achievement were also enhanced. Of particular note is the improvement of 58% of the students in work completion and the overall improvement of grades in all subject areas.

Conclusions and Recommendations

Based on the presentation and analysis of the data on academic growth, the students showed a marked improvement in their grades. This data was based on those students who maintained "A" averages or improved grades by one or more letter grades. There were a number of students, however, who maintained "B" or "C" averages which should not be construed as being unsuccessful academically even though their grades did not improve particularly. These students may have been working at or above their ability or potential. Also, there were some students whose

grades actually went down one or more letter grades. The researchers were aware that there were many factors that impacted these particular students. Factors such as emotional issues, family problems, severe learning disabilities, poor attendance, etc. played active roles in many of these students' lives and could not be overcome by these interventions.

Most of the students became adept at recording assignments and following the homework recording procedures. Some students had to be monitored more closely than others for several weeks during the year, and some students had to have their assignment sheets checked daily. The students responded positively to the reward system and seemed to be interested in earning the reward activity at the end of the month. Unfortunately, some students were unable to meet the required criteria successfully by completing assignments. However, the majority of the students did improve in work completion. For any particular student, it is difficult to determine whether these improvements were due to the structured homework procedure, the improved teaching strategies which included cooperative learning and multiple intelligence lessons, increased parental involvement, improved self-esteem, or a combination of any of these factors. For some students, parent involvement was absolutely essential to get students to complete homework. For a few students, none of these intervention strategies seemed to make a great deal of difference. So many other personal problems and family issues inhibited these students' ability to complete assignments; and some students simply chose not to do homework assignments no matter what the rewards, consequences, or teacher/parent involvement were.

This experience would indicate that the use of a structured homework procedure involving the use of assignment sheets is most beneficial. This routine should be begun the very first day of school. In order to "hook" more students early on, the period for which rewards are earned should be much shorter than a month. For some students, a more immediate reward is necessary. Involving the parents through the use of signatures, etc. is essential. Contacting the parents frequently through newsletters and phone calls will further insure that they are continually informed about their child's progress and will remind them to monitor their child's assignment sheets and work completion.

The researchers would strongly recommend the use of a variety of esteem building interventions. Building student self-esteem is of primary importance. Any future successes or failures of the students hinge upon the student's self-esteem. The use of journal writing and kid logs can be very beneficial in getting to know the students better. Then individual attention can be given to each child's strengths, weaknesses, problems, and interests.

Cooperative learning activities should be incorporated in all subject areas as often as feasible and applicable. These activities are crucial in building self-esteem and a sense of belonging for each student in the class. They also serve to challenge some students and provide academic support for others.

All students must be offered interesting, relevant, and challenging material. The teaching strategies employed such as cooperative learning activities, multiple intelligence lessons, multi-disciplinary units, etc. will make the school year an enriched learning experience for all of the children. Involving

students in simulations and hands-on activities will peak student interest and lead to improved motivation.

These strategies will make the year rewarding for the teachers as well. However, these types of strategies do not come without a price. The materials for these types of lessons are expensive, the time required for the teachers to prepare and implement such lessons is great, and the effort is exhausting at times. The researchers recommend the application for grants to fund such extensive projects, and strongly recommend getting parents to share in the work load. Realistically, units such as the space unit and Egypt unit must not take the place of academic work that prepares the students for required standardized testing. Therefore, both of these units were conducted after standardized testing had been completed in February. Undertaking two such huge projects within such a short amount of time is definitely not recommended. However, many of the same types of projects could be used on a smaller scale in all subject areas throughout the year.

These types of interventions actually need to be carried out for an entire school year. The teacher needs to do whatever it takes to reach and motivate each and every student. Overall, the researchers felt that the majority of the targeted students, as a result of the fifth grade learning experience, have the tools needed to keep up with the demands of the increased work load of middle school, and hopefully they will be motivated to do so. If in the future their education is relevant, meaningful, and interesting, and can appeal to their imagination and multiple intelligences, their learning should be optimal.

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APPENDIX A

HOMEWORK SURVEY

FIFTH GRADE HOMEWORK SURVEY

Please help me know how you handle homework. Make sure you answer honestly. Do not put your name on this paper.

1. Do you usually have your homework completed on time?
yes no

2. Do you have a time every day when you do your homework?

____ right after school
____ after dinner
____ before bed
____ other _____

3. How much time do you usually spend on homework on school nights?

none 10-30 minutes 30 minutes-1 hour more than 1 hour

4. Where do you do your homework? (check one)

____ bedroom
____ desk
____ dining room or kitchen table
____ in front of TV
____ other _____

5. Does an adult check to see that your homework is completed? Yes No

6. Is there a consequence at home if your homework is not completed on time? Yes No

APPENDIX B

ATTITUDE SURVEY

GETTING TO KNOW FIFTH GRADERS

Please help me know how fifth graders feel about the following items. Be honest in all of your answers. Please **do not** put your name on this paper.

1. My greatest concern about fifth grade is_____

_____.

2. The one thing I like most about school is_____

_____.

3. The one thing I like least about school is _____

_____.

4. The one thing I hope my teacher will do this year is_____

_____.

5. The one thing I hope my teacher will not do this year is_____

_____.

6. The subject I find the easiest is _____.

_____

7. The subject I find the hardest is _____.

_____

8. This year I hope to make improvements in _____.

_____

9. How do you feel about coming to school? (circle one)
I'd rather stay home. Coming to school is ok. I enjoy coming to school.

---

10. How important is it to you to do well on your schoolwork? (circle one)
not important somewhat important very important

---

11. How important do you think this is to your parents? (circle one)
not important somewhat important very important

APPENDIX C

TEACHER SURVEY

TEACHER SURVEY

1. What percentage of your students hand in homework on time on a daily basis?

   50%-60% 70%-80% 90%-100% other_____

2. What consequence do you give your students for late assignments?

   ____ zero grade
   ____ drop letter grade
   ____ note home
   ____ stay after school to complete work
   ____ stay in at recess to complete work
   ____ other _____

3. Do you reward students for homework completed on time?
   Yes No
   How? _____

4. What do you think is the main reason for late assignments?

   ____ other activities
   ____ homework too difficult
   ____ student chose not to do homework
   ____ student felt there wasn't enough time
   ____ lack of parental support
   ____ other _____

Please feel free to add comments:

APPENDIX D

SURVEY FOR PARENTS OF FIFTH GRADERS

Parent Survey

1. How do you monitor your child's homework completion
   ____ check the assignment sheet daily
   ____ check the assignment sheet weekly
   ____ rarely check the assignment sheet
   ____ choose not to check the assignment sheet

2. Does your child have a consequence at home for late assignments? Yes No
   ____ no television
   ____ no phone privileges
   ____ stay inside house
   ____ other (please specify) _____
   ____ no consequence

3. Does your child have a specific place to do his/her homework? Yes No

   ____ bedroom
   ____ desk
   ____ dining room or kitchen table
   ____ in front of TV
   ____ other (please specify) _____

4. Do you encourage your child to balance homework with other afterschool activities? Yes No

5. If your child needs assistance with homework assignments, are you available to provide help or guidance? (check one)
   ____ always
   ____ occasionally
   ____ usually not available
   ____ choose to have child work on homework alone

6. How much time does your child usually spend on homework on school nights?
   none 10-30 minutes 30 minutes-1 hour more than 1 hour

Please feel free to add comments:

APPENDIX E

WEEKLY ASSIGNMENT SHEET

Assignments for the week beginning
January 25, 1999

This sheet belongs to

	Monday	Tuesday	Wednesday	Thursday	Friday
Spelling					
Reading					
Language					
Math					
Science					
Social Studies					
Things to Remember					

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APPENDIX F

FIRST PARENT NEWSLETTER

SCHOOL NEWS
XXXXX ELEMENTARY SCHOOL
MRS. XXXXXXX'S CLASS
MRS. XXXXXXX'S CLASS

AUGUST 28, 1998

Dear Parents,

We have enjoyed getting to know your children these first few days of school. Now we want to let you know what is going on in our classes. Usually we will send home a parent note each Friday. However, I will no doubt have weeks in which getting to the computer is just not possible. We will try to keep you informed about what is going on in our classes such as upcoming tests, special activities, etc.

The children seemed to feel at home right away. They have gotten organized, have learned our routine and rules, and have settled down to work. We have had some get-acquainted activities and games to ease us into our new friendships. We enjoyed matching and guessing whose baby picture went with which fifth grader. Ask your student about the toilet paper activity we did today. You never know what we will come up with next!

This week in math we reviewed place value up to the billions place. Next week we will introduce the decimal places to the thousandths place. We will be doing a review of addition and subtraction but will introduce adding and subtracting decimal numerals at the same time. This is a new skill in math for your children. We are also working on learning to problem solve and to write about the process. This too is a new skill we are developing.

We sent home this week a spelling list of 20 words. A list will be copied by your child every Monday. We will remind the children to bring the list home, and hope you will remind them to study it a few minutes each evening. Our word list this week was pretty easy. We will add more difficult words next week for those students who need the challenge. Test results this week were outstanding. Let's hope the enthusiasm lasts!

We will begin Band classes next week. All of the fifth graders will participate in the first few introductory sessions. Then you and your child will be asked to decide if he/she

will continue to participate, and what instrument will be selected. More information will follow from our band instructor soon.

We are fortunate to have class sizes of only 19 students. We usually get new students after Labor Day though, so our enrollments will no doubt pick up a little.

You should have seen a homework folder with an assignment sheet in it come home with your child each day. This folder must be brought home and returned to school each day. We remind the students to write the assignments down at the end of the day. You can help by checking the assignment sheet at home to see what your child should be working on and by insisting that your child complete assignments on time and that he/she returns the assignments and materials to school each day. Usually homework will not be assigned on weekends. Thank you for your support.

We have not had an opportunity to speak with many parents yet. However, there will be an Open House soon. We will get to speak with you there about our school routine, etc. If you have questions before that time, or any time, for that matter, please call us. You can leave a message with Mrs. XXXXXXX (school secretary) in the office and we will return your call as soon as we get a free moment. The school number is XXXXXXX. If a serious problem needs attention in the evening, you may call us at home. We would be happy to schedule a conference if you need one. We do ask that your children not call us to find out homework assignments. Children can call a classmate for this purpose. We look forward to meeting with you soon.

If you are interested in being a Room Mother or Room Dad to help organize parties and call for assistance from other parents, please send a note with your child. All volunteers will be put to use at one time or another.

We appreciate the time most of you took to help your child complete the family history questionnaire. We will begin our study of immigration next week. We will also send a pattern for an assignment or special project to accompany this unit. Your child will be given a pattern for a doll that is to be dressed in the traditional costume of a country of his/her choice. Please feel free to make this a family project if you would like. The doll's costume can be made of paper, yard, cloth, or whatever materials you find appropriate. These dolls will be on display at Open House.

We will also have a culminating activity called Lunch on Ellis Island in which the children will pretend to be immigrants arriving by ship from Europe during the late 1800's or early 1900's. The children will be given new family identities and will dress as immigrants might have dressed during that period. You might be looking for clothing that could be used to pretend your child lived during this era. More information will be sent home before this activity. We want to wait until the building is a little cooler before we undertake this activity. We are also planning a Mini-Metric Olympics activity soon. Let us know if you would like to help or be involved in either of these activities.

Most of our weekly notes will not be this long. Please check your child's backpack on Friday for our newsletter and the week's assignments. We will not ask you to sign each week's letter unless there is an item of special importance or a field trip permission slip, etc. We are asking you to sign this one and return the portion below so that we know you are informed that such letters will be sent home weekly and that you know to ask for them. We want you to know what your child is doing in school and we know you want to be informed!

Thank you for lending us your special children!

Sincerely,

I have read the first newsletter that Mrs. XXXXX and Mrs. XXXXX sent home on August 28 and I know to look for a letter each Friday during the school year. My child is _____.

_____
parent signature

Comments:

APPENDIX G

STUDENT JOURNAL PAGE

You want to know what makes me feel like a real crab? Well, I am going to tell you anyway...

APPENDIX H

STUDENT JOURNAL PAGE

Our news correspondent is coming to us live from XXXXXXXX, Illinois, as he interviews one of the outstanding fifth graders at XXXXXXX Elementary School. We are going to hear from this student about something that would make any child proud.

I am proud because I _____

_____

_____

_____

_____

_____

APPENDIX I

JOURNAL COVER LETTER

Dear Parents,

This is a reflective journal in which we hope you and your child will write impressions about the fifth grade experience at Clay Elementary. We welcome your comments and suggestions. We are interested, of course, in your thoughts about the special projects and presentations, but also welcome your comments regarding your child's progress in the various subject areas. We want to hear about any special concerns or problems as well. Tell us what we did right, but also tell us what you think we could do better. You may use the back of the page if you need to. Please feel free to write as little or as much as you'd like.

We are circulating a number of these journals in the hopes that all of our families will have a chance to respond before the end of the school year. We ask that you return the journal within 2 days so that it can be kept circulating. Thank you for your support this school year in the many ways that you have volunteered and participated. We look forward to reading your comments, and we value your input. Have a great summer with your very special children. It has been our pleasure to work with you and your children.

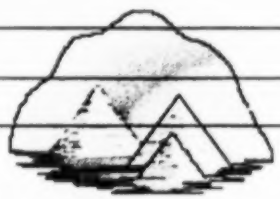
Sincerely,

APPENDIX J

JOURNAL FOR PARENT/STUDENT COMMENTS

Reflections on a Year in Fifth Grade

Parent Comments:



signed: _____

Student Comments:

signed: _____